Business Resource Efficiency Guide

Green Office: A Guide to Running a More Cost-effective and Environmentally Sustainable Office

Our vision is a world without waste, where resources are used sustainably.

We work with businesses and individuals to help them reap the benefits of reducing waste, develop sustainable products and use resources in an efficient way.

Find out more from WRAP at www.wrap.org.uk

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Summary

Most organisations, regardless of sector and size, have an office or administration of some kind. This guide has been designed to help small and medium-sized offices save money, improve environmental performance and respond to environmental enquiries from suppliers and customers. It provides practical solutions that cost nothing or little to implement and will enable office workers to identify their impact on the environment.

Many organisations underestimate how much waste is costing; it could be as high as 4% of turnover. Systematic action could save between £400 and £1,000/year for every employee. With the right measures, waste costs can easily be reduced to only 1% of turnover – often with little or no investment.

This guide covers the common environmental impacts of a typical office and the advice given emphasises the importance of considering the principles of the waste hierarchy when dealing with office waste.

In addition to identifying and providing guidance on the types of waste produced by offices, this guide also provides advice on energy and water efficiency measures, legislation, transport, and how to communicate, maintain and review resource efficiency measures in your organisation.

Links to other relevant sources of information are provided in the final section.

1 Introduction

Many organisations underestimate how much waste is costing; it could be as high as 4% of turnover. Systematic action could save between £400 and £1,000/year for every employee.

The information in this guide covers the common environmental impacts of a typical office. It will help office workers and managers to quantify current practice, and take practical action to reduce environmental impact and costs by improving the use of office resources.

Adopting the measures provided will help any organisation with an office to assign responsibility and set targets to encourage continuous improvement. It will also enable more effective internal and external communication on waste reduction achievements.

Many organisations underestimate how much waste is costing; it could be as high as 4% of turnover. Systematic action could save between £400 and £1,000/year for every employee. With the right measures, waste costs can easily be reduced to only 1% of turnover – often with little or no investment.

Dr Liz Goodwin, CEO, WRAP, said "We're really optimistic that the UK will embrace the challenges ahead – not just because greater resource efficiency is sustainable and good for the environment, but because it saves money, and generates new opportunities for businesses and creates jobs".

Most organisations, regardless of sector and size, have an office or administration of some kind. This guide has been designed to help small and medium-sized offices save money, improve environmental performance and respond to environmental enquiries from suppliers and customers. The tried-and-tested principles used are equally applicable to larger offices and are compatible with some of the requirements of ISO 14001 and the EU Eco-Management and Audit Scheme (EMAS).

The impacts an office can have on the environment include:

- **resource use** (e.g. energy, water and office supplies);
- **waste disposal** (e.g. food waste, paper, office equipment or worn-out fixtures and fittings);
- **air emissions** (e.g. from boilers or heating and cooling systems);
- **noise pollution** (e.g. from car parks or site maintenance); and
- **water pollution** (e.g. from unauthorised discharges from catering facilities, contaminated run-off from car parks or through the use of cleaning and chemical products).

By following the information given in this guide, you will be able to reduce the cost of wasted office resources in your organisation, ensure legal compliance and, consequently, help to secure your organisation's reputation for the future.

If you are just getting started on cost savings and environmental improvement, this guide is structured to help you tackle the key issues in a logical progression and focuses on the quick wins.

If you have already taken some steps to improve efficiency in your office, simply dip into whichever section is relevant to you.

To help you further, resources are available on the WRAP website www.wrap.org.uk

Benefits of becoming a green office

- Reduced costs.
- Improved resource efficiency.
- Reduced carbon footprint.
- Improved environmental performance.
- Improved corporate image.
- Employees are more environmentally aware.

1.1 Waste reduction drivers

To reduce harmful or unsustainable practices, a variety of policies and laws have been introduced to drive improvement. Therefore, the legislative burden on organisations has steadily increased over recent years.

In addition, as preventing future climate change has become a high priority for Government, further legislation has been introduced aimed at reducing greenhouse gas (GHG) emissions.

The Department for Environment, Food and Rural Affairs (Defra) has undertaken a review of waste policy[1] that highlighted a number of priorities to be addressed. These provide further incentives for organisations to follow the waste hierarchy (i.e. prevent, re-use, recycle and recover other value) to maximise the value of the materials we consume and reduce the amount of residual waste that is sent to landfill. Reducing waste and using materials more efficiently could reduce your business costs. Using materials more efficiently is simply a question of good commercial sense to help you stay competitive.

For further information on waste regulation and legislation, please contact GOV.UK in England or Business Wales in Wales.

[1] www.defra.gov.uk/publications/files/pb13540-waste-policy-review110614.pdf

2 Measuring and monitoring

To identify opportunities for making environmental improvements, it is recommended that you conduct a review of current practice.

Measuring and monitoring resource use should be one of the first steps an organisation takes in improving its environmental performance; without a good understanding of use, you will be unable to manage resources in an efficient manner. To identify opportunities for making environmental improvements, it is recommended that you conduct a review of current practice.

Remember: If you don't measure it, you can't manage it.

The first step is to understand how your office uses resources (e.g. paper, office consumables, water and energy) and why waste is produced. Decide what measurements you need to take to monitor performance and then gather these data on a regular basis (see Table 1 for suggested sources of data, units of measure and frequency).

For good data, consistency is vital – particularly for measurement units and monitoring periods. For example, gas usage figures could be collected daily, weekly and monthly (depending on its importance and usage) using either cubic metres (m^3) or kilowatt hours (kWh). To convert m^3 to kWh, multiply by 11.13[2].

The data you collect will help you to:

- track your performance over time; and
- highlight areas for improvement by enabling you to compare your performance against established key performance indicators (KPIs) – see Section 2.2 for more information on KPIs.

Monitoring can be as simple as taking meter readings regularly or tracking purchasing information from invoices. An example of a typical monitoring and measuring spreadsheet is shown in Figure 1.

Table 1: Suggested sources of data and units of measure

	Source of data	Units of measure	Frequency
Paper	Invoices	Number of sheets, reams or boxes	Weekly or monthly
Solid waste	Invoices	Tonnes, kilograms, per waste container (size and density)	Weekly or monthly
Water	Invoices, meter reading or estimates (if no meter)	m^3	Daily, weekly or monthly
Energy	Invoices, meter reading	kWh or m^3	Daily, weekly or monthly

[2] This is a typical value. Please visit www.carbontrust.com/resources/reports/advice/conversion-factors for more information on conversion factors.

Remember that raw data alone will not provide the full picture. Comparisons to production, sales or number of employees can help to illustrate efficiency in a more meaningful way.

Figure 1: Typical data sheet

Monitoring and measuring data tracker (your site)

Choose appropriate figure to correspond to production (e.g. tonnes of product shipped, £1,000 sales).

Be aware of the units you are using. Electricity meters tend to be in kWh, but gas meters are in m³.

Date	Turnover	Emploee numbers	Production output	Electricity meter reading	Weekly electricity usage	Gas meter reading	Weekly gas usage	Water meter reading	Weekly water usage	Waste to landfill	Recycling
	£		tonnes	kWh	kWh	m³	m³	m³	m³	tonnes	tonnes
1/1/2012											
8/1/2012											
15/1/2012											
22/1/2012											
29/1/2012											

Tracking data in this way can highlight where the business can achieve:

- reduced spending on office paper;
- energy reductions following a 'switch-off' campaign; and
- water use reductions following a campaign to report leaks.

It is recommended that offices regularly monitor and measure:

- key materials (e.g. paper and packaging);
- solid waste;
- water; and
- energy.

2.1 Benchmarking

Many organisations benchmark themselves against data from previous years. If you don't have these data, then you could:

- go through invoices and sales information to gather data appropriate for a 'baseline' year; or
- use the current year to monitor and measure resource use, and then generate a baseline year against which future years can be compared.

2.2 Key performance indicators (KPIs)

Remember that raw data alone will not provide the full picture. Comparisons to production, sales or number of employees can help to illustrate efficiency in a more meaningful way. Consider setting up KPIs to track performance and drive improvements. For example, a KPI could be the number of reams of paper used per number of office-based employees per year.

Spreadsheets are a useful tool to log, save and manipulate data. For the purposes of gathering regular information, you may choose to use paper-based log sheets (e.g. for a designated person in the office to take electricity and gas meter readings). You might then have a further designated person responsible for entering these data into the spreadsheet on a regular basis.

Use the information gathered to communicate and report monthly performance using graphs, pie charts, tables, etc.

Choosing the right KPI is important. The following KPIs may be appropriate:

- waste (tonnes) to landfill and % recycled waste;
- water used (m^3) per member of staff;
- energy used (kWh for gas and electricity) per floor area (m^2);
- paper used per member of staff (reams or kg); and
- office and canteen waste recycled per member of staff (%).

Typical practice for energy use in an office can often be almost twice the level of good practice.

Below are some typical figures that can be used to benchmark office performance.

WASTE – a good-practice office produces fewer than 200kg of waste per staff member per year.

RECYCLING – a good-practice office – operating efficient recycling schemes for paper, glass, cardboard, cans and toner cartridges – can achieve a recycling rate of between 60% and 70%.

PAPER – a best-practice office can use as little as seven reams of paper per staff member per year (there are 500 sheets of paper in a ream).

WATER – a best-practice office building should be using no more than 2m^3 (2,000 litres) of water per employee per year (or 7.9 litres per employee per day)[3]. Where an office has a canteen where meals are cooked from raw ingredients, then the water use associated with the preparation, cooking and cleaning will increase this to around 40 litres per staff member per day. Table 2.3 of CIRIA publication 'Water Key Performance Indicators and benchmarks for offices and hotels' gives further water benchmark details for offices.

ENERGY – energy use and emissions are best compared as consumption per m^2 of treated floor area (TFA)[4], as shown in Table 2.

Typical practice for energy use in an office can often be almost twice the level of good practice.

Table 2: Good practice energy use and emissions per m^2 of treated floor area[5]

	Gas/oil consumption (kWh/m^2)	Emissions (kg CO_2/m^2)
Naturally ventilated smaller office	79	32.2
Naturally ventilated, open-plan office	79	43.1
Air-conditioned, standard office	97	85.0
Air-conditioned headquarters	107	143.4

3 CIRIA C657 Water key performance indicators and benchmarks for offices and hotels, London 2006.
4 Treated floor area (TFA) is the gross floor area (total area inside external walls) excluding plant rooms and other areas not heated (e.g. stores, covered car parks and roof spaces). Ideally, it should be measured, but an estimate of TFA can be made by multiplying the gross floor area by 0.9.
5 www.carbontrust.co.uk/publications/pages/publicationdetail.aspx?id=ECG019

3 Waste reduction opportunities

The true cost of waste isn't limited to the charges for disposal. It also includes wasted raw materials, energy and labour – which can be between 5 and 20 times more than the cost of disposal.

Waste is expensive. UK businesses could save £23 billion per year and help create and protect jobs by improving the way they use resources[6]. However, half of all companies do not know how much they actually spend on waste. The true cost of waste isn't limited to the charges for disposal. It also includes wasted raw materials, energy and labour – which can be between 5 and 20 times more than the cost of disposal. It could cost more to throw resource away than to purchase it in the first place.

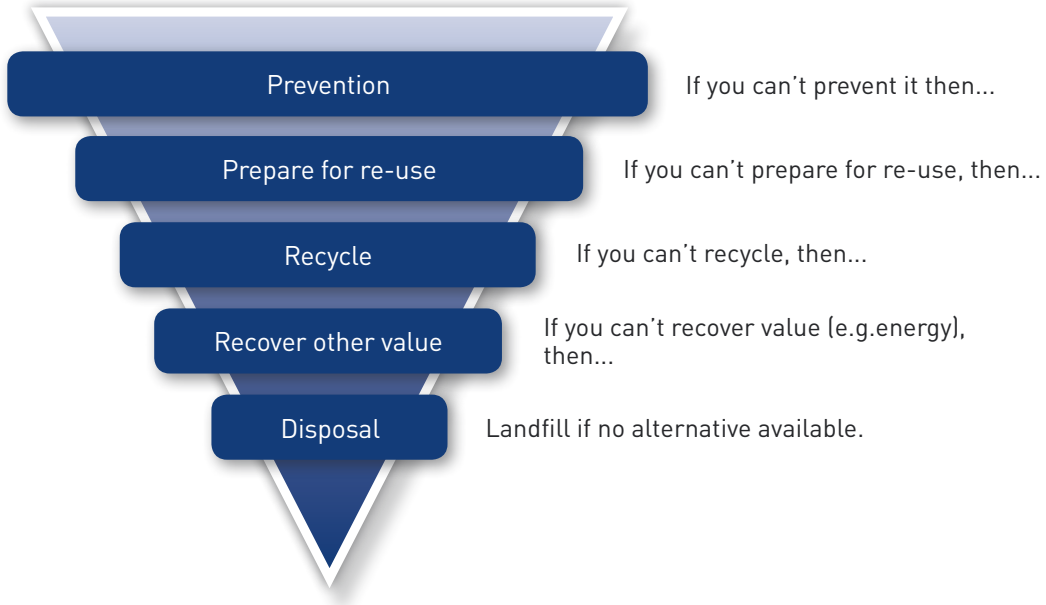
To improve resource efficiency, it is first necessary to understand how inefficiencies occur. Often, the main sources of wasted resources at work are inefficient systems and poor working practices. Overall, the best way of reducing wasted resources is to prevent waste occurring in the first place.

Waste can be dealt with in a number of ways, but the most effective is by following the waste hierarchy[7] which ranks waste management options in terms of sustainability, this is shown in Figure 2.

All organisations should aim to prevent waste from the outset wherever possible. However, if this is not possible, then consider re-using, recycling or recovering other value (e.g. energy). Not all wastes can be prevented, re-used, recycled or used for the recovery of other value, so you will need to dispose of them in a responsible manner. Waste disposal has the greatest impact on the environment and is typically the least cost-effective waste management solution. Therefore, it is best to aim to 'move up' the waste hierarchy so that you can save money, raw materials, water and energy – as well as improving your environmental reputation.

The WRAP Waste Hierarchy guide is designed to help you understand the waste hierarchy, and allow you to select the information on the wastes your business produces and what measures are available to you in applying the hierarchy.

Figure 2: The waste hierarchy



6 The Further Benefits of Business Resource Efficiency published by Defra, March 2011.
7 The revised EU Waste Framework Directive (Directive 2008/98/EC) sets out five steps for dealing with waste, ranked according to environmental impact – the 'waste hierarchy'. This has been transposed into UK law through the Waste (England and Wales) Regulations 2011.

Hidden costs
Remember that the true cost of waste includes the value of the paper, stationery, furniture and other equipment that you are throwing away. This is likely to be between 5 and 20 times the disposal cost alone. Look in your bins and see if there is anything that should not be there. For instance, unused stationery or paper used on only one side. Consider the reason for disposal for every item in the bin.

3.1 Purchasing

There is a strong link between purchasing and waste management. However, communication between those responsible for these functions is surprisingly rare. Involve both parties in considering the whole life-cycle costs of the products you purchase. This should include the source of raw materials, manufacturing processes used, packaging, distribution, use and potential for re-use, and the disposal requirements of the product. What you buy has an effect, ultimately, on how much waste you produce. Before you buy any product ask yourself the following questions:

- Do I really need to buy it?
- Am I buying more than is needed?
- How good is our stock control – is more being ordered than is actually required, resulting in materials being disposed of before they are used?
- Is it heavily over packaged? and
- Can it be re-used?

Consider the life cycle of the product. An electric light bulb that's cheap to buy may cost more in running costs over its lifetime than a more expensive energy efficient bulb.

It is important not only to collect materials for recycling, but also to close the recycling loop by purchasing materials with a recycled content (e.g. paper and stationery products, toilet paper and refuse sacks). The use of these materials will help to stimulate the market for recycled products and support the recycling process.

What you buy not only affects your recycling rate, but also has an effect on the recycling market. Before you buy any product, ask yourself the following questions:

- Is it made from recycled materials?
- Is it made from easily recycled materials, such as paper, glass or wood?
- Are its component materials easy to separate for recycling? and
- Is its packaging easily recyclable?

Aim to purchase items in packaging that can be recycled easily and locally.

Assess your suppliers – where possible, choose those that can demonstrate good environmental performance.

- Buy locally – supporting local businesses can reduce transport emissions and the associated environmental impact.
- Rationalise deliveries to reduce transport emissions associated with your activities.
- Refurbish and repair – if possible, recondition existing equipment rather than buying a new replacement.

Receiving deliveries in re-usable boxes will reduce the amount of raw materials used and waste materials that require disposal.

If you are using caterers, ensure that they deliver products in re-usable packaging and discourage the use of disposable items.

4 Paper

It is estimated that the average office worker uses up to 45 sheets of paper per day, of which over half is considered waste.

As the most common waste for offices, paper is a major purchasing and disposal cost, yet it can be reduced easily by following the principles of the waste hierarchy. It is estimated that the average office worker uses up to 45 sheets of paper per day, of which over half is considered waste. However, an efficient office can use as little as 16 sheets of paper per person per day.

There are a number of key environmental issues associated with virgin paper production. These include loss of natural habitat and water stress in certain areas due to intensive tree farming, high chemical and energy use in manufacture, and detrimental effects from the landfilling or incineration of paper waste. However, paper is a natural resource that can be recycled up to five times, substantially reducing these impacts. By buying locally produced, recycled paper you can help boost the market for recycled products. This, in turn, will support the recycling industry and reduce unnecessary virgin imports.

Recycled papers are as readily available and have equivalent quality, 'printability', appearance and range as virgin papers.

As a rule, you should try to use papers with the highest percentage of post-consumer waste, preferably 100%, rather than paper that is composed of pre-consumer waste (i.e. printers' virgin off cuts and mill broke). There are a number of standards and labels that classify paper according to its raw material content and manufacturing process (see Table 3).

Table 3: Label/logo raw materials criteria

Name of label	Symbol	What the label means
NAPM Approved Recycled		The National Association of Paper Merchants awards the NAPM Recycled Paper Mark to all branded papers and boards containing a minimum 75% genuine paper and board waste, no part of which must contain mill-produced waste.
Blue Angel		Label awarded to paper and board products containing 100% waste paper (minimum 51% post-consumer waste).
Mobius Loop		There are two versions of the Mobius Loop – one denotes whether the product can be recycled, the other its recycled content. When using the latter, the percentage of recycled fibre used appears in the centre of the loop. Where the product comprises entirely recycled fibre, there is no figure. These symbols are often used without authority and in a misleading manner. Always check the basis for using these labels with your supplier.
ECF, TCF and chlorine free		**Elemental chlorine free** (ECF), chlorine gas has not been used to bleach the pulp during the pulping process. **Totally chlorine free** (TCF), no chlorine compounds have been used during the pulping or papermaking process. **Chlorine free** is often used to mean either of the above; ask for clarification from the paper supplier.
EU Eco-label		Specifies maximum limits for discharges to water, emissions to air and energy consumption as well as requiring sustainable forestry management for virgin fibre.
Nordic Swan		Awarded to paper mills meeting minimum environmental performance standards.

To calculate the true cost of printing for your business, include the purchase, printing and waste disposal costs. The cost of printing alone can be as much as eight times the cost of the paper.

Before you buy paper, ask the following questions:

- What is its recycled content?
- How much post-consumer waste does it contain?
- Has the environmental impact of its manufacture been minimised?

4.1 Baseline: calculating the use and cost of paper

Use the equations in Table 4 to calculate the annual paper use and cost per person in your organisation. To put paper use into perspective, you may wish to tell staff the average number of sheets of paper they use each day (there are 500 sheets in a ream). A best-practice small office can use as few as seven reams of paper per person per year. This calculation will help to identify wasteful behaviours and habits, and what is required. See Figure 3 to identify the kinds of printing culprits in your office.

To calculate the true cost of printing for your business, include the purchase, printing and waste disposal costs. The cost of printing alone can be as much as eight times the cost of the paper.

4.2 The waste hierarchy – office paper use

4.2.1 Prevention

- Using both sides of paper can reduce use by up to 50%. Ensure that all printers are set to double-sided format as default. Question whether you need to print draft copies at all. If this is unavoidable, print four pages to an A4 sheet and then recycle. Put reminder posters near printers and photocopiers.
- Reduce the number of printers, particularly desk printers because they are expensive to run and, as they are easy to reach, people tend to print items unnecessarily and wouldn't do this if they had to walk to centralised printers.
- Monitor printing levels by giving employees a personal access code to the printer/ photocopier. Consider posting a league table next to the printer.
- Avoid overproduction of marketing and publicity material by reviewing distribution lists and regularly updating databases.
- Use electronic communications where possible to reduce printing and faxing. Ensure that employees are comfortable with new technology and provide training for them where necessary.
- If fax machines are necessary, ensure they are set so they do not produce unwanted header or report sheets. Explore low resource options, for example install a fax server allowing faxes to be sent direct from computers.
- Encourage staff not to print emails unless absolutely necessary. Add reminders on email signatures to avoid printing, such as the one below.

Please consider the environment before printing this email

- Reduce confidential waste costs by ensuring that the non-confidential paper collection is secure and give clear instructions to staff as to which material is strictly confidential.
- Use thinner paper – thinner paper means using less material for each page and less energy in the manufacturing process. Paper with a weight of 80gsm is standard and is suitable for routine printing.
- Collect all paper that has been printed on one side and re-use it for printing in draft or for scrap message pads.

4.2.2 Prepare for re-use

- Re-use envelopes wherever possible, especially for sending information internally.
- Donate waste card or paper to your local school or nursery.
- Segregate and shred paper for re-use as packaging infill.

Table 4: Calculating a baseline of annual paper use and cost per person

Total reams of paper purchased per year	÷	Number of staff in your organisation	=	Total paper use (reams/person/year)
Total cost of paper purchased per year (£)	÷	Number of staff in your organisation	=	Cost (£/person/year)

Figure 3: What kind of printing culprits are in your office?

The Pointless Printer	Prints everything just because they like to have a hard copy of all documents, even emails.
The Competitive Printer	The bigger the pile of what they perceive to be 'crucial' documents, the more important they think they look.
The 'Old School' Printer	Feels they can't possibly comment on an email request without printing it off to read it and thinks it is impossible to edit documents by looking at them on screen – can only do so by printing off and writing amendments on the paper copy.
The Hasty Printer	Presses the 'P' button before checking quantity, length, etc of the document and watches as 20 copies of a 200-page document in full colour come out of the printer, and then rolls their eyes as if the printer is at fault.
The Sneaky Printer	Acutely aware they are overprinting, and that such practice is frowned upon, but can't live without their paper – so gets in early or stays late to make copious amounts of what is possibly personal printing so no one sees them.
The Model Printer	Double-sided, recycled paper. Only prints what is essential and likes to share documents with the rest of the team.

4.2.3 Recycle

- Contact your waste contractor or refer to the Waste Directory (http://wastedirectory.org.uk) for details of paper recycling organisations in your area. The frequency of collection and cost of recycling will depend on the amount of paper that you generate.
- Place paper recycling bins in all offices. A good guide is one bin between six staff. Use paper-box lids as additional desk-top collection trays.
- Ensure that cleaning staff are in support of the recycling scheme and that emptying the recycling bins is part of their contracted work.
- Promote the scheme to staff by displaying posters around the offices and on bins explaining the types of paper that can be recycled.
- Provide staff with ongoing feedback about the scheme, including figures on the amount of paper collected. Suggest making a donation to charity or planting a tree when targets are met.
- Ensure that service and maintenance warranties are not adversely affected by using recycled paper. There is no valid reason why they should be.
- Close the loop by buying recycled products where possible.
- Get together with other local organisations to make the collection of recyclable products more economical.
- Establish clear senior management commitment for resource efficiency initiatives – problems will occur if recycling is not seen as an integral part of an organisation's greener operations.

4.2.4 Recover other value

- Segregate paper and envelopes that cannot be recycled and send for energy recovery.

5 Waste

Can someone else use your waste? Consider the organisations in your area and whether they may be able to use your waste.

The management of other resource and waste streams should also follow the waste hierarchy model. This section provides tips on how your office can cut its environmental impact through better waste management.

5.1 The waste hierarchy – office waste (excluding paper)

5.1.1 Prevention

- Choose minimally packaged products or ask your suppliers to supply products in less packaging. Alternatively, ask suppliers to take excess packaging away with them when they deliver.
- Discourage excessive use of stationery by implementing an ordering system. This allows you to monitor departments and target high-use areas for reductions.
- Ensure that vending machines allow the use of china mugs rather than plastic vending cups.
- Avoid purchasing disposable catering products (e.g. individual milk containers, sugar sachets and paper plates).
- Prevent food waste. Prior to confirming catering arrangements for meetings, accurately establish the numbers attending – most people over order.
- Replace bottled water with water coolers that are attached to the water supply. This will reduce service charges incurred from the use of bottles, transportation and packaging. Removing stored water bottles from the office may also help release space and improve the working environment for employees.
- Paper towels or hand dyers? Consider installing hand dryers in toilets rather than using paper towels. This may marginally increase energy costs, but will eliminate the cost of purchasing paper and also reduce landfill waste costs. Alternatively, if dryer costs are too expensive, consider using efficient paper-towel dispensers, which allocate one sheet at a time to avoid overuse.

5.1.2 Prepare for re-use

- Hold an annual 'stationery amnesty'. A surprising amount of material can be recovered by asking staff to hand in all their unused items for re-use.
- Buy remanufactured toner cartridges. High-quality recycled cartridges are available with the same performance as new cartridges, but at a lower price. Return your toner cartridges for remanufacture in a pre-paid envelope to a specialist remanufacturing company or schemes run by charities.
- Re-use envelopes, wallets and packaging wherever possible.
- Make sure marketing materials can be used again. Don't make them event or date specific.
- Ask your computer supplier/manufacturer about refurbishment contracts. Ensure redundant equipment is collected and that you receive revenue for the residual value.
- Refurbish and redistribute office furniture and electrical items or make use of re-use schemes often provided by charities or community groups. It is estimated that for every tonne of furniture re-used, 4 tonnes of CO_2 is saved. Find out about local groups from the Community Recycling Network www.crn.org.uk.
- Make a list of redundant items in stock and new items required by different departments, and match these up to re-use items wherever possible.
- Can someone else use your waste? Consider the organisations in your area and whether they may be able to use your waste. For example, wood waste could be chipped and used as a fuel source by another business (but check that anyone who collects waste materials meets the legal requirements - see Section 5.5).

Nominate a 'recycling champion' to assist and monitor waste disposal.

5.1.3 Recycle

About 70% of office waste is recyclable[8]. By recycling as much as possible, you may be able to reduce your waste disposal costs significantly, particularly as the cost of disposal is increasing due to the Landfill Tax. Recycling costs less than disposal to landfill, particularly if you segregate your waste. **Check what is in your bins.**

- Avoid contamination – monitor and check recycling receptacles regularly. Use clear plastic bags rather than black bin liners to assist with monitoring segregation.
- Remove desk bins and replace them with office recycling bins to encourage recycling – use one recycling bin for every six staff. Removing bins at individual desks could also have a knock-on effect of reducing housekeeping costs as less time would be spent emptying all the individual bins.
- If space to segregate waste is an issue, consider 'mixed dry recycling' where several recyclates can be disposed of together.
- Nominate a 'recycling champion' to assist and monitor waste disposal. The proper use of recycling facilities should be encouraged and awareness continually reinforced to prevent future contamination.

5.1.4 Recover other value

- Where plastics cannot be recycled (perhaps due to difficulties in segregating waste), it may be possible to send them for use in energy-recovery operations.
- Food waste can be used in energy-from-waste plants.
- Ensure that your waste electrical and electronic equipment (WEEE) contractor is reputable and removes recyclable components from WEEE before sending the residual combustible waste for energy recovery.

5.2 Waste segregation

To implement an effective waste segregation system, consider the following recommendations:

- create recycling stations with all the segregation containers in one place;
- colour code the containers to ensure consistency throughout the office and to reduce confusion – speak with your current waste contractor with regards to supplying new bins if these are needed;
- introduce an enhanced segregation scheme, which should be accompanied by an awareness and communication scheme to inform employees of the changes;
- generate waste signage and posters to inform employees of the correct container that each type of waste should go in;
- communicate and reward good practice to drive further improvements; and
- use league tables to encourage improvement.

[8] www.businesslink.gov.uk/bdotg/action/detail?itemId=1081282456&type=RESOURCES

If your business produces waste, you have a responsibility to ensure that you produce, store, transport and dispose of it without harming the environment.

5.3 Organic waste

Organic waste dumped in landfill creates methane and carbon dioxide – significant GHGs contributing to climate change – as it breaks down.

If your office produces food waste from staff restaurants or canteens, discuss opportunities for an organic waste collection with your waste contractor or look for a contractor offering a collection service in your area using the Waste Directory (http://wastedirectory.org.uk). You must check that any premises you send your catering waste to is approved under the Animal By-Products Regulation and has an appropriate permit or licence from the Environment Agency.

5.3.1 Compost your food waste

For small quantities of catering waste, consider using a food waste digester, hot composter or wormery. For larger amounts, install a small in-vessel composter. However, if you wish to produce compost yourself from your catering waste you must meet a number of conditions, including:

- only produce the compost at the premises where the catering waste is produced; and
- apply the compost only on the grounds of premises where it is produced.

You must separate catering waste, and the resulting compost from all other wastes throughout the composting process. You must not mix catering waste that contains meat with catering waste that does not contain meat.

Before composting any catering waste you will need to gain authorisation from your local Animal Health Divisional Office (AHDO). Once your site is authorised, you will need to monitor and review your activities on an ongoing basis.

You must also hold a waste management licence or register an 'exemption' with the Environment Agency. Gaining exemption for a business wishing to compost on a small scale (excluding Animal By-Products) is relatively straightforward. Guidelines can be found on the Environment Agency website.

5.4 Hazardous waste

Waste that is potentially harmful to humans and the environment is known as Hazardous Waste in England and Wales. All businesses that use electrical and electronic equipment must comply with the WEEE Regulations. Common types of WEEE in offices include:

- computers, copiers, scanners and printers;
- fluorescent light tubes;
- refrigerators;
- microwaves and kettles;
- televisions;
- vending machines; and
- telephones.

You must comply with your duty of care responsibilities when dealing with WEEE. All such waste must be collected by an authorised waste contractor and any consignment notes for hazardous waste uplifts should be held on record for 3 years.

Ensure that hazardous waste disposal procedures are in place for items such as tins containing waste paint, oil containers, sanitary waste and fluorescent tubes.

5.4.1 Ensure legal compliance – duty of care

If your business produces waste, you have a responsibility to ensure that you produce, store, transport and dispose of it without harming the environment. This is called your duty of care. To comply with the Duty of Care Regulations for waste, you must ensure that you store and transport your waste appropriately and securely. Check that your waste is transported and handled by businesses that are authorised to do so. Your business is required to keep waste transfer notes for at least 2 years; this includes those for recycled waste.

Under the Producer Responsibility Obligations (Packaging Waste) Regulations, your organisation has an obligation if it handles more than 50 tonnes of packaging in a calendar year and has a turnover of more than £2 million (based on the previous financial year). Visit the GOV.UK website for more information.

Anyone who recycles, treats, stores, reprocesses or disposes of your waste must have a waste management licence or pollution prevention and control (PPC) permit.

5.5 Reduce the cost of disposal – work with your waste contractor

There is a wide range of waste contractors providing a host of recycling opportunities. Discuss options with different contractors to identify the most beneficial waste collection arrangements to suit your needs. When reviewing your current arrangements, consider the following:

- check that you need all of the bins currently supplied by your contractor. If some are not fully utilised, ask your contractor to remove them or reduce the frequency of collection. For example, ask for them to be emptied at your request, rather than at a time set by the contractor. Remember to renegotiate your costs to get savings arising from fewer collections;
- small quantities of recyclates can often be a problem to arrange collections for. Consider working with other local organisations to increase the quantity of items for collection to a level that provides economies of scale;
- contact your local authority to find out if a season ticket or pre-paid tickets are available to allow recyclable waste to be taken to local recycling centres;
- flatten or compact cardboard and other bulky wastes to make the most efficient use of disposal facilities or consider bailing materials to potentially increase value and reduce void space in the recycling bin;
- prevent fly tipping by opting for lockable bins;
- glass, cans, plastic bottles and paper can provide revenue if they are clean and uncontaminated. Their value is dependent on the market price of specific materials and transport costs to reprocessors. See www.letsrecycle.com for monthly and historical recycling values of different materials;
- charges (or revenue) for recycling all materials can be obtained direct from the service providers once the potential for recycling current waste streams has been investigated fully; and
- visit the Waste Directory (www.wastedirectory.org.uk) for information on recycling services in your area.

You must only pass your waste to, or have it collected by, an authorised person. Anyone who collects and transports your waste must:

- be a registered carrier of controlled waste; or
- be exempt from registration as a carrier – this includes your local council's waste collection services.

Anyone who recycles, treats, stores, reprocesses or disposes of your waste must have a waste management licence or pollution prevention and control (PPC) permit. A registered carrier should be able to produce a certificate of registration or a certified copy. If you do not check and keep proof of this, you could be held responsible if your waste is disposed of illegally (e.g. by fly-tipping).

You can check the Environment Agency register of carriers and brokers to see if a carrier is registered.

6 Energy

Tracking your CO_2 emissions is an important element of calculating your carbon footprint and assessing the environmental performance of your business.

Energy costs are one of the most easily managed in the workplace and often have the greatest potential for reduction. No- and low-cost improvements can reduce energy use by around 20%. Many organisations have noticed that energy costs have increased by about 30% over the last two years, even though consumption has remained steady. Therefore, it is important that energy use is reduced wherever possible to mitigate the market trend of increasing costs.

The practical actions listed at the end of this section will not only save you money on your energy bills, but will also reduce your CO_2 emissions. Tracking your CO_2 emissions is an important element of calculating your carbon footprint and assessing the environmental performance of your business.

Comparing actual meter readings with the readings on the bill, which may be estimates, can highlight any discrepancies and overcharges (estimated readings are indicated by an 'E' after the meter reading on the bill and actual readings have an 'A').

Figure 4: Baseline: calculating your energy emissions

The information you need to make these calculations can be obtained from your fuel bills. These should cover a full year and be the actual consumption and cost, not an estimate by the utility company. You also need to calculate your treated floor area, as energy use and emissions are best compared as consumption per m^2.

	Annual kWh (m^2)		Treated floor area^2		Annual kWh/m^2		CO_2 conversion factors		CO_2 emissions (kg/m^2/year)
Gas		÷		=		x	0.1836	=	
Oil		÷		=		x	0.27857	=	
Coal		÷		=		x	0.3325	=	
Total fossil fuel (kWh/m^2)									
Total electricity (kWh/m^2		÷		=		x	0.5246	=	
Total CO_2 emissions (kg/m^2/year)									

CO_2 conversion factor data obtained from the Carbon Trust: Conversion Factors – energy and carbon conversions – 2011 update.

Figure 5: Baseline costs

Next, calculate how much you currently spend on energy/m² for your offices. You may also wish to calculate cost per staff member, by dividing the total annual cost by the average number of staff on site.

	Total annual cost (£)		Treated floor area² (m²)		Annual cost (£/m²)
Gas		÷		=	
Oil		÷		=	
Coal		÷		=	
Total cost (£/m²)					
Cost per person (£/year)					

6.1 Benchmark

Compare your baseline figures for fossil fuel (i.e. gas and oil) use, electricity consumption, emissions and costs with the good practice and typical practice figures shown in Table 5. Use these benchmarks when setting your targets. Consider fossil fuel and electricity consumptions separately; this will help you to pinpoint which needs more urgent attention.

Table 5: Energy benchmark data[9]

	Gas/oil consumption		Electricity consumption		Emissions		Cost	
	Good practice (kWh/m²)	Typical practice (kWh/m²)	Good practice (kWh/m²)	Typical practice (kWh/m²)	Good practice ($kgCO_2/m^2$)	Typical practice ($kgCO_2/m^2$)	Good practice (£/m² TFA)	Typical practice (£/m² TFA)
Naturally ventilated smaller office	79	151	33	54	32.2	56.8	2.65	4.61
Naturally ventilated open-plan office	79	151	54	85	43.1	72.9	3.68	6.13
Air-conditioned standard office	97	178	128	226	85.0	151.3	6.25	11.12
Air-conditioned headquarters	107	201	234	358	143.4	226.1	10.38	16.27

[9] Source of data: Energy Use in Offices (ECON19), Carbon Trust, 2003.

If possible, ensure energy is purchased centrally, and get renewal quotes from existing and alternative suppliers annually. Investigate taking all, or a percentage, of your energy from renewable sources or 'green tariffs'.

Top tips for reducing energy use in offices are detailed below.

6.2 Heating and cooling

- Find out how the heating and cooling systems for your office operate, and take advantage of any energy efficient functions that are built in.
- When heating, reduce the temperature of a room by 1°C; it is unlikely that anyone will notice and you could cut the heating bill by as much as 10%. Most staff are comfortable at 19°C. Similarly, set air-conditioning to come on only when temperatures exceed 24°C.
- Turn off heating and cooling in unoccupied rooms, making sure they are well ventilated to prevent condensation and mould. Only use these systems when people are actually in the rooms/building.
- Use timers and temperature control sensors to control output. For example, an optimiser sensor fitted externally to your office building can set heating controls to warm up the office before staff arrive and shut off heating controls once the building is at the optimum temperature, avoiding overheating or the need to open windows.
- Make sure fans, pumps and central plant such as cooling towers, boilers and chillers do not operate when buildings are unoccupied, except where they are needed for pre-heating or pre-cooling.
- Make sure windows and doors are closed when heating or air-conditioning is on.
- If your office is being refurbished, consider installing double or triple glazed windows, and encourage cleaners to close blinds/curtains to prevent solar gain or heat loss when rooms are unoccupied.
- Check that insulation (walls, roof and pipes) and draught-proofing is adequate to prevent unreasonable heat loss.
- Ensure appliances such as refrigerators have an EU energy rating of A or higher.
- Install instant water heaters where possible, otherwise reduce the temperature of stored hot water (to a minimum of 60°C to avoid Legionella bacteria breeding).
- Install heat reflectors to the walls behind radiators to improve their efficiency at relatively low cost. Ensure heaters and radiators are kept clear by not placing furniture in front of them.
- Check boilers and thermostats – a serviced boiler can save up to 10% on heating costs.

6.3 Lighting

- Replace incandescent light bulbs with energy-efficient, compact fluorescent lamps (CFLs) and slimline tubes. They typically make immediate savings of up to 75% and last up to ten times longer. Use tri-phosphor coated tubes for a more natural, brighter light.
- Use natural light wherever possible. Keep windows clean and encourage staff to open the blinds rather than turn on the lights. Daylight blinds are available that redirect light to the ceiling thereby preventing glare. Some also have perforated blades to allow a view of outside.
- Make sure lights can be switched off manually (particularly near windows). Installing zone controls and daylight sensors ensures that lights are switched on only when necessary.
- Install presence detector lighting controls in places not in constant use (e.g. toilets, store rooms and meeting rooms). These sensors provide savings of up to 30% on lighting costs.
- Ensure lighting controls are clearly labelled, especially if they are grouped together.
- For new installations, ensure you have several separate circuits so that lights in darker areas can be turned on independently of those in lighter areas.
- Run a 'switch off' campaign. It is **always** cheaper to switch off lights (including CFLs) no matter how short the time period. Place stickers above light switches and use posters and emails to remind people. For details, visit the Carbon Trust's website.

- Consider the whole-life cost savings of fitting energy efficient lamps. It may cost more initially to buy a CFL than an incandescent lamp, but when the lower running costs and reduced labour costs through less frequent lamp replacement are taken into consideration, the whole-life costs of CFLs are much lower.
- Ensure timers and sensors are in good working order and are set according to occupancy times.

6.4 Office equipment

- Purchase equipment with the EU ENERGY STAR® standard or similar. If your computer has the 'power save' feature, make sure it is activated
- Screen savers do not save energy. Enable 'power-down' settings and insist that staff switch off their computer monitors when not in use, including when they are away from their desks for meetings or breaks.
- During the refurbishment or replacement of equipment, request data on the average power consumed under typical operating conditions, and the standby and low energy consumption rates.
- Some energy saving settings can save as little as 10% of the energy used when in use, so switch off all equipment where possible or fit a simple plug-in timer. Alternatively, fit an energy saving plug to PCs that automatically switch off peripherals when the PC is switched off.
- Make sure vending machines are running at the optimum temperature and are serviced regularly. Consider installing 7-day timers on vending machines to reduce their energy consumption when offices are not occupied.

Many organisations with large energy bills use real-time monitoring, such as 'smart meters', to manage and control energy more effectively. Some equipment is fully wireless and portable, so you can move it around your property to identify immediately what is using the energy and actively adjust the use accordingly. Alarms can be set to monitor unusual consumption or changes to base patterns. These can be linked to email or mobile phone contacts so that managers can have access to real-time information and respond quickly to any problems or anomalies.

7 Water

Over two-thirds of water use in the average office takes place in the washroom, where substantial savings can often be made. As with waste, the true cost of water is higher than the supply and sewerage charges alone.

There are significant pressures on water resources in England and Wales which affect the water environment and water supplies. Pressures are greatest in the South East and Eastern England because they are the driest regions, and have the highest population density and household water use. The water required to irrigate crops also adds to the pressure on water resources during the driest times of the year.

There is also a trend towards lower average rainfall in some areas, which could lead to water shortages.

In the future, organisations are liable to see tighter restrictions on their use of water and further increases in charges for metered water, yet most businesses are still not aware of how much they are using. Over two-thirds of water use in the average office takes place in the toilets, where substantial savings can often be made. As with waste, the true cost of water is higher than the supply and sewerage charges alone. The true cost should include the energy taken to heat and deliver the water in your building. Therefore, associated energy costs should be used as an important additional driver for reducing water use.

The products you buy can have an effect on how much water you use so, before making a purchase, ask the following questions:

- Is it water efficient?
- Will it increase or decrease water use in the office?

7.1 Water charges

There is considerable variation with respect to water and wastewater charging across England and Wales.

A number of factors affect charging, such as the service provider, the size of the water meter for the incoming supply and the tariff structure agreed with the service provider.

However, if your property has a water meter, your water charges are based on a volumetric rate and a standing charge (which depends on the size of your meter).

Volume and strength determine how much is charged for sewage and trade effluent.

Water companies have different approaches to charging for surface water drainage and highway drainage; check with your water supplier to find out how they apply to your organisation. If you don't have a water meter, your charges are based on the rateable value (RV) of the property.

7.1.1 Baseline: calculating your water use

Your water bill will tell you the amount of water that you use and how much you spend annually. However, be careful to check if these are estimated or actual readings. Use the equations in Table 6 to calculate a baseline of annual water use and cost per member of staff.

Table 6: Calculating a baseline of annual water use and cost per person

Annual water use (m^3)	**÷**	**Number of staff in your organisation**	**=**	**Water use (m^3/person/year)**
Annual water cost (£)	**÷**	**Number of staff in your organisation**	**=**	**Cost (£/person/year)**

NB 1m^3 is equivalent to 1,000 litres

Consider retrofitting flush devices in existing toilets. For example, a variable flush or siphon mechanism can save you up to 4 litres per flush and cost as little as £10 to install.

7.2 Practical actions

7.2.1 Taps and showers

- Turn off taps fully – a 5mm stream of water wastes 528,000 litres (528m^3) of water/year and costs around £1,000 for cold water, but could be as much as £4,000 if the water has been heated.
- Fix dripping taps – a dripping tap will waste at least 5,500 litres of water/year.
- Is your water pressure too high? If so, you may need to consider fitting some form of flow regulation. Tap aerators and flow restrictors are low-cost solutions and can reduce water use by up to 70%. A flow rate of between 5 and 6 litres/minute is usually adequate for hand washing.
- Consider fitting electronic taps with infrared hand sensors or self-closing taps. These will reduce the amount of water used while improving hygiene. Ensure maintenance is carried out regularly – soap deposits and scale can cause tap mechanisms to jam, resulting in taps dripping and subsequent water loss.
- As with your taps, ensure the shower control unit is regularly maintained as soap deposits and scale can cause blockages and reduce performance. When refurbishing shower rooms, consider water efficient products and make sure they are correctly installed. Consider devices such as push button showers or isolating ball valves to reduce water usage.

7.2.2 Toilets and urinals

- Where suitable, fit older 9-litre WC cisterns[10] with volume adjusters such as a 'hippo' bag or 'save-a-flush' which reduce the amount of water per flush by up to 2 litres. Also, consider retrofitting flush devices in existing toilets. For example, a variable flush or siphon mechanism can save you up to 4 litres per flush and cost as little as £10 to install.
- Check how much water is released into the urinal when it flushes and consider whether it needs to flush after working hours. Installing passive infrared sensors (PIR) can save up to 75% in water use and costs. Also, consider installing waterless urinals. These can potentially reduce urinal water use by up to 90% and provide significant cost savings[11].

7.2.3 Water using equipment

- When purchasing new equipment, consider the whole-life cost and look to buy products that are water and energy efficient. For example, modern dishwashers can use 10 litres per wash cycle.
- Try to ensure that dishwashers are full to capacity before starting a wash cycle.
- Only fill the kettle with the amount of water that you need each time.
- Typically, a conventional shower uses 35 litres (for a 5-minute shower). However, power showers use substantially more water (60 litres or 12 litres/minute), which is nearly as much as a bath (80 litres). Fitting an aerator, which costs around £5, to a shower that is used twice a day for five minutes, could save around £30/year in water and sewerage costs.
- If your office has a large canteen, fit trigger taps to reduce the volume of water used during food preparation and cleaning.
- For the garden areas outside your office, water butts are easy to fit and mean that precious water can be used for plants and outside cleaning without having to pay for drinking-quality water unnecessarily.

Water Technology List

The Government's Enhanced Capital Allowance scheme (ECA) for sustainable water technologies allows businesses to write off 100% of investments in designated sustainable technologies and products against tax in the first year of investment. Eligible products are detailed on the Water Technology List (WTL). All businesses paying UK corporation or income tax are eligible for the tax allowance. Even if your organisation is not eligible for tax relief, the WTL provides a source of information about devices that help to minimise water use. Visit www.hmrc.gov.uk/capital-allowances/fya/water.htm for more information.

[10] Usually installed before 1993.
[11] Water may still be required for hygiene, flushing or cleaning; refer to the manufacturers cleaning instructions.

7.2.4 Fix leaks

- Check your pipes for leaks – leaks can be expensive and can also cause damage to buildings. Check your meter readings regularly and carefully, and monitor consumption – if you are paying for water that you cannot account for, you may have a leak.
- Comparing actual meter readings with the readings on the bill, which may be estimates, can highlight any discrepancies and overcharges (estimated readings are indicated by an 'E' after the meter reading on the bill and actual readings have an 'A').
- If you have a water meter, take a reading last thing at night and again first thing in the morning. This will show you how much water is being used outside of normal office hours and can highlight leaks, faulty overflows or other water losses.
- Contact your water supplier to assist with locating leaks.

Increase the awareness of managers and staff about the value of water. Regular staff training, as well as feedback, can help strike a balance between more efficient use of water, and maintaining hygienic and effective cleaning practices.

8 Transport

The type of vehicle your organisation chooses to buy or use has a fundamental effect on transport-related costs and environmental impact.

The cost of travel is increasing. Many organisations are implementing voluntary travel plans (sometimes known as 'green transport plans') to reduce the costs and environmental impacts associated with business travel. A travel plan is a strategic package of initiatives to reduce car use and improve efficiency. The benefits of reduced car travel are numerous. Providing incentives and facilities for employees to take public transport, cycle or walk to work can be cheaper than providing more car parking spaces.

There are many other possible benefits, such as an improved image within the community, improved health and morale of the workforce, and better access to labour pools. The greatest benefit of a travel plan may come through the reduction of business travel costs by implementing measures that reduce the need to travel and improve the efficiency of existing business travel. For example, savings of 10% on fleet costs can be easily achieved through effective procurement and fuel management. Add increases in fuel taxes to this, together with the possibility of road tolling and workplace parking charges, and the need to identify cost saving measures becomes even more important.

The type of vehicle your organisation chooses to buy or use has a fundamental effect on transport-related costs and environmental impact. Before you buy, lease or hire any vehicle, ask the following questions:

- Do we need the vehicle?
- What is the 'whole-life' cost[12] of the vehicle, which includes the initial cost of the vehicle, its residual value, and fuel, maintenance and insurance costs?
- Could we use alternative fuels?[13]

8.1 Practical actions

Develop and implement a travel plan for your organisation. Senior management commitment is essential and the plan should be communicated throughout the organisation. All travel should be planned using the hierarchy described below.

Step 1 Minimise the need to travel

- Use easily accessible conference venues.
- Locate any new offices close to public transport systems and publicise alternative transport links to visitors.
- Investigate the feasibility of home working or telecommuting for relevant employees. This need not apply to every working day and can significantly reduce the number of journeys staff make and maximise their working efficiency.
- Increase the use of communications technologies such as email, integrated services digital network (ISDN) and video conferencing.

[12] Visit www.energysavingtrust.org.uk/Publications2/Transport-fleets/Fleet-briefings/Whole-Life-Costs for more information about whole-life costs.
[13] Visit www.energysavingtrust.org.uk/Transport/Business/Electric-vehicles/Cleaner-fuels for more information about cleaner fuels.

Monitor the fuel performance of each vehicle and ensure regular servicing and maintenance are carried out by a reputable garage.

Step 2 Promote the use of efficient transport modes

- Improve facilities for cyclists and walkers. Essentials are secure bike racks, showers and lockers. Offer interest-free loans for public transport season tickets. If you are a large organisation, try to negotiate discounts for your employees. Provide staff with up-to-date information on public transport.
- Promote car sharing. Establish a database or an informal meeting for prospective car sharers and guarantee a free taxi ride in an emergency.
- Reassess your car parking arrangements to include priority parking for car sharers or introduce charges for non-essential user parking. Use the money raised to fund transport projects.
- Change personal car mileage allowances to favour smaller cars and public transport by having one rate only (instead of rates based on engine size) and making the maximum allowable claim no more than the cost of an equivalent second-class rail fare.

Step 3 Make the most efficient use of company cars

- Purchase or lease fuel-efficient cars taking the whole-life costs into account – these can be calculated according to your projected usage[14].
- Give training in advanced driving practice – fuel consumption can be reduced by 15-20% through more efficient driving.
- Monitor the fuel performance of each vehicle and ensure regular servicing and maintenance are carried out by a reputable garage.
- If your fleet management is outsourced, ensure that you set high environmental standards in the contract and specify aspects such as fuel economy and emissions testing.

Visit www.gov.uk/government/policies/improving-local-transport for more information on travel plans, transport advice and pool fleet guidance.

Energy Saving Trust – Fleet Health Check

Organisations in England with a fleet of more than 20 vehicles, under 3.5 tonnes can request a free environmental review which includes recommendations on how to cut vehicle costs and carbon emissions. Implementing the recommendations made in a Fleet Health Check could save up to £1,000 for every vehicle in your fleet. Visit **www.energysavingtrust.org.uk/Organisations/Transport/Products-and-services/Fleet-consultancy/Green-Fleet-Review** for highly tailored fleet management advice to help you cut running costs, reduce environmental impact, and enhance corporate social responsibility.

[14] The AA's calculations of motoring costs are available at www.theaa.com/allaboutcars/advice/advice_rcosts_petrol_table.jsp (petrol) and www.theaa.com/allaboutcars/advice/advice_rcosts_diesel_table.jsp (diesel).

9 Gaining support

Reap financial rewards – simple waste reduction measures can generally save 1% of your annual turnover.

Senior management involvement is vital to ensure support from the top of the organisation and gain the most effective outputs and the most thorough behavioural change. Senior-level sponsors provide leadership and a clear signal of commitment. They will also be able to escalate environmental messages to the board and accelerate your progress. Make sure you define the support you need from senior management and be prepared to communicate this.

Senior management can provide:

- authority for action;
- resources (staff, finance, time);
- allocation of responsibilities; and
- mentoring and advice.

Sell the key benefits of resource efficiency.

- Reap financial rewards – simple waste reduction measures can generally save 1% of your annual turnover.
- Protect yourself against rising costs – future resource scarcity, leading to rising costs and supply insecurity, poses a serious risk to businesses.

Once you have gained senior management commitment, you should look to gain buy-in from internal and external stakeholders.

Involving others is essential in identifying what needs to be done. Where possible, it is best to consult a team that includes:

- **internal stakeholders** – health and safety manager, operational manager, purchasing manager, manufacturing manager, etc. Make sure operational staff are also involved; and
- **external stakeholders** – facilities managers, cleaners, waste contractors, suppliers, local community, customers and shareholders, etc.

To ensure resource efficiency is embedded in the culture of the organisation, you will have to ensure staff are fully engaged and supportive. Staff need to feel involved, so make sure you identify suitable roles and responsibilities.

- What do you want them to do?
- Why do you want them to do this?
- When must actions be achieved?
- How will actions be achieved?

Employee involvement and empowerment is key to getting their buy-in.

9.1 Setting up a green team

Establishing a green team to drive initiatives forward will provide you with vital support. Green champions or green teams will be invaluable in spearheading a resource efficiency campaign and ensuring that procedures are being followed in relation to aspects such as waste segregation. When setting up a green team, aim to capture a cross section of employees in the organisation who work at various levels and in various departments to act as green champions.

Identify a team of 'green champions'

✓ Interested people are more likely to be motivated!

✓ Choose employees from a varied and diverse working background.

Create a positive climate to help your green team identify opportunities and help you communicate with your stakeholders.

The green team should be responsible for:

- taking ownership of ideas suggested by management or employees;
- facilitating action and providing access to different skills and ideas;
- engaging with employees to reduce resistance to change; and
- improving awareness and understanding of the need for change.

9.2 Communicating success

Communication is the key to improving efficiency and environmental performance as most initiatives require everyone's involvement. Make sure that everyone understands what you want to do and why. Provide regular feedback on your targets and achievements to staff.

External communication, through reports and press coverage, can also be important as it gives your organisation a positive image and adds momentum to your programme.

Employees are in the best position to identify wasteful behaviour and implement ideas, so ask them for their input. Consider offering an award for any suggestions taken forward. Internal newsletters, presentations, stickers and posters are ways of communicating new initiatives and the progress of projects to staff in organisations. Leading by example will also help communicate the resource efficiency message to employees.

Communication routes

- newsletters and email updates;
- presentations;
- signage;
- posters;
- displays;
- feedback;
- awareness days;
- word of mouth; and
- intranet and website.

9.2.1 Awareness

Ensure everyone in the organisation is aware of the changes being made.

- Check employees understand how waste should be segregated and where it should go; make sure out-of-hours workers, such as cleaning staff, are also aware.
- Ensure bins are clearly labelled – create your own branded signage.
- Encourage green team members or waste champions to assist with recycling efforts and raise awareness among staff.
- Get information from your contractors on how much waste you are recycling and communicate this information to staff.
- Set targets to increase recycling rates and when these are met, consider providing an appropriate award to staff.
- Highlight consumption levels against benchmark figures to staff via colourful graphs or posters.
- Ensure people know where they can go to find out more and how they can contribute (e.g. a suggestions box).

9.2.2 Maintain awareness

- Run theme weeks.
- Update posters – remember to change methods of communication and deliver short, but new, messages to keep the message fresh and awareness high.
- Run competitions.
- Keep the campaign fresh.
- Update work procedures.
- Induction training for new employees.

9.2.3 Review

How do you know if the initiatives are working? Analyse your measurement and monitoring data to see if figures are improving. Conduct an office walk round and:

- check if equipment is still being left on;
- check if waste is being segregated properly;
- challenge wasteful behaviours – ask questions; and
- ask for improvement ideas.

10 Further information

Useful sources of information

WRAP guides and tools

- Workforce Partnerships for Resource Efficiency.
- WRAP Waste Hierarchy Guide.
- Finding Cost Savings: Resource Efficiency for SMEs.
- Resource Efficiency for Managers.
- Environmental Strategic Review Guide.
- Recycle at Work resources.
- The Rippleffect: water efficiency for businesses.

Useful links

- The **Carbon Trust** helps business to cut carbon emissions. Visit the website at www.carbontrust.co.uk for more information.
- The **Energy Saving Trust** (www.energysavingtrust.org.uk) offers independent and impartial advice about how to save energy and money.
- Environment Agency Resource Efficiency Tool.
- Defra: Waste and recycling.
- www.letsrecycle.com
- www.recyclenow.com

For guidance on environmental topics go to:

- **England** – GOV.UK: Waste and environmental impact.
- **Northern Ireland** – NIBusinessInfo: Environment and efficiency.
- **Scotland** – Business Gateway: Environment policy and procedures.
- **Wales** – Business Wales: Environment - efficiency, waste & pollution prevention.

WRAP

WRAP (Waste & Resources Action Programme) works in England, Scotland, Wales and Northern Ireland to help businesses and individuals reap the benefits of reducing waste, develop sustainable products and use resources in an efficient way.

Since its creation WRAP has funded projects that will, over their lifetimes, deliver over 120 million tonnes of waste diverted from landfill and over 20 million tonnes of CO_2 equivalent greenhouse gases saved. Visit www.wrap.org.uk for more information on all of WRAP's services.

What support can you get from WRAP?

UK businesses could save £23 billion per year and help create and protect jobs by improving the way they use resources.

WRAP provides a range of free resource efficiency support for organisations including:

- online tools and guidance;
- online training initiatives;
- tailored business support for recycling companies;
- case studies; and
- guides.

Visit www.wrap.org.uk to find out more.

We hope that you have found this guide helpful on your route to greater resource efficiency. Don't forget that WRAP is here to help you to improve resource efficiency. Visit the website at www.wrap.org.uk

Waste & Resources Action Programme

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recycle