

**Waste Minimisation
Commandments: 'Reducing the
amount of raw material used
and disposed of by the public
sector could... be tremendously
beneficial to the environment.'**

Carwyn Jones, Welsh Environment Minister

Waste Minimisation Commandments

PAPER

- **Minimise paper communication.** Use electronic communication where possible, eg e-mail and fax to computers, and discourage people from printing e-mails and attachments - they can be filed electronically instead. Question whether you need to print draft copies at all. Produce report copies in CD-ROM format to reduce paper use.
 - Cancel **unwanted publications or junk mail** and use notice boards or circulation tick lists to reduce the numbers of copies of internal documents. You can contact the Mail Preference Service for further information on how to cancel unwanted mail (www.mpsonline.org.uk or tel: 020 7291 3310).
 - **Double better than single.** Ensure that all photocopying and publications are produced double-sided - this should be the default setting on the printer. If you cannot print double-sided, printing two sheets per page is an easy way to reduce paper. Use a separate box or tray next to printers and photocopiers to collect used paper. Use it to make message pads or for printing in draft. Do not throw away a sheet until both sides are used!
 - Re-use office **stationery**, eg folders, files, and envelopes, wherever possible, especially for sending information internally.
 - Avoid over-printing of **public information** and **campaign material** by reviewing distribution lists and regularly updating databases.
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PACKAGING

- Choose minimally **packaged products** or ask your suppliers to supply products in less packaging. Ask your suppliers to take excess packaging away with them when they deliver.
 - **Re-use packaging** (eg cardboard boxes). Produce guidelines for ensuring that surplus packaging waste is re-used. Provide incentives for staff within your organisation to reduce and re-use packaging. Shred waste paper for re-use as infill material to packaging.
 - Segregate any waste packaging for **recycling** and find out which contractor would be best to collect it.
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OFFICE EQUIPMENT

- Within larger public sector organisations, redundant **office equipment**, such as desks and chairs, can be redistributed to other offices rather than sent to landfill. Advertise redundant equipment electronically via an internal intranet or e-mail. Alternatively, identify businesses, charities or community organisations that can re-use and recycle redundant office equipment.
 - Consider leasing **electronic equipment** so that the supplier takes responsibility for re-use or recycling at the end of its life. Alternatively, ensure redundant equipment is collected and either sold on or donated to charities, schools or other local groups. Confirm with the charity or voluntary organisation that they can accept redundant equipment.
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CATERING

- Prior to confirming **catering** arrangements for meetings, confirm the numbers attending. Most people over-order!
 - Reduce the amount of **plastic waste**, eg by providing only durable crockery and cutlery, and vending machines that do not automatically dispense plastic cups.
 - **Bulk better than individuals.** Avoid purchasing disposable catering products such as individual milk and cream cups, sugar sachets and paper plates, etc. Use refillable bottles or jugs for drinking water and non-disposable coffee/tea mugs for buffets and refreshments.
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PROCUREMENT

- Specify waste minimisation requirements for **contractors** when procuring their services. Require them to demonstrate good waste management practices when working for you and ask them for evidence of this.
 - **Don't over-order materials.** There is a common tendency in the make-to-order environment to order more materials than required for the job.
 - Ensure that grounds development and maintenance contracts require the sustainable management of green wastes and use **waste derived compost** wherever possible in landscaping and maintenance operations.
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For specialist waste information please contact the National Assembly's Waste Strategy Unit on 029 2046 6148.

The Welsh Assembly Government acknowledges the use of Envirowise materials in developing this 'Public Sector Waste Minimisation Resources Pack'.

Case Studies: 'The Assembly strategy 'Wise about Waste' has set a particular target for each public sector body to reduce its waste by at least 5% by 2005.'

Carwyn Jones, Welsh Environment Minister



Case Studies

Recycling at Powys County Council

Powys County Council has provided recycling services for around 1200 staff in most of its offices since September 2003. By separating recyclable waste from other rubbish 'at source', the scheme is designed to improve current recycling activity and raise awareness. **The key to its success is that it is easy to use.**

A range of bins and collection systems are in place. All bins are coloured coded and an information leaflet has been provided to all staff to remind them what and how to recycle.

- Blue bins are for **good quality office paper** of any size or colour. Every member of staff has been provided with a desk-side recycling bin, which allows recyclable paper to be separated from other, unrecyclable, waste.
- Grey bins are for **mixed paper** of any type including newspapers, magazines, leaflets, brochures, envelopes, telephone directories, photocopy paper packets, post-its and light cardboard.
- Bins with green-lids are for **plastic bottles**, soft plastic film, and drink **cans**. In Brecknockshire, clean plastic yoghurt pots and trays are also accepted.
- There are also special bins for waste **plastic cups** including coffee cups and water cups.
- **Cardboard** boxes are also separated for recycling and are stored inside or taken directly to a recycling bin outside.
- **Glass** is also collected in large red wheeled bins at several locations.
- Any printer or fax **cartridges** are sent to the Waste Management Department at County Hall, from where they are sent for refilling and all money raised is donated to Action Aid charity.

Any other rubbish that can not currently be recycled is collected in 'absolute rubbish' bins. This includes items such as sweet wrappers, crisp packets, drink cartons, pens, rigid plastic such as laminate cut-offs, teabags, fruit wastes, tissues, paper towels.

In the first year of recycling at County Hall, over 35 tonnes of paper was recycled - the equivalent weight of over 30 cars! This equates to approximately 80kg per person, so just think, every one has recycled their own weight in paper! And it's a similar picture in other offices. In addition to paper, they have recycled literally tonnes of cardboard, plastic bottles and cups and cans and as a result the amount of waste going to landfill has dramatically reduced.

They are also saving money! The Council saved about £6650 last year and hopes to save at least as much again this year. Most offices use a paper merchant, who provides the recycling service free of charge if good quality office paper is separated out from the rest. Most of the cans and plastic bottles go to the Council's Material Recovery Centre which is operated by the charity Cae Post.

The scheme is currently being rolled out to more offices and will soon appear in public buildings, such as libraries and sports centres, for public use too.

Carmarthenshire County Council - In-house paper recycling & school recycling

Carmarthenshire County Council started an in-house paper-recycling scheme in November 2003 with the provision of green bins to offices within the authority. The scheme is a free service open to all of the authority offices.

Free school recycling collections started in April 2003 in partnership with a recycling company. Paper was the first waste stream to be collected, with cardboard, cans and plastic being added later in the year. The cost of the scheme is met by the authority, which provided the recycling bins to the schools free of charge. The scheme now has 140 Carmarthenshire schools actively participating.

Within the first 10 months of the scheme, 192 tonnes of paper was recycled, which consisted of:

- 60% from Carmarthenshire schools;
- 25% from Carmarthenshire County Council (CCC) offices; and
- 15% other.



Case Studies - continued

For every tonne of paper collected from schools and offices, their recycling partners donate £6 to Cilgerran Children's Ward at the local Glangwilli Hospital. The amount raised for the ward between November 2003 and May 2004 was £1152.

In addition to the collection of dry recyclables, 67 schools have been given free compost bins and five have been given wormeries to educate the children on composting. The school children take it in turns to feed worms with peelings and kitchen waste and the compost that is produced is then put onto their organic vegetable patch. This is one of a number of environmentally friendly initiatives being run at the school as part of the Eco Schools Programme. Ysgol y Castell has gained its first Eco Schools Award.



Figure 1 Five Roads Primary School (left)



Ysgol y Castell Kidwelly (right)

Source of text and pictures: Carmarthenshire County Council

Waste Collection at the University of Glamorgan

The University of Glamorgan is the first university in the UK to receive the ISO 14001 award, the international standard for environmental management systems, for the quality of its environmental practice and teaching across the campus.

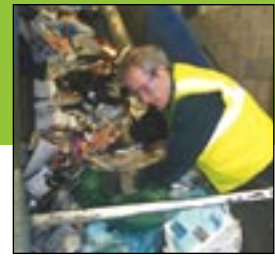
In terms of waste management, the university made some significant cost savings by reviewing their waste management contract. The university originally had a contract for annual waste collections at the main campus in Treforest. It was based on five 10 cubic yard skips being emptied three times a week. The skips were emptied on a regular basis regardless of the amount of waste being generated. The university carried out a survey of waste collection practices and found that the skips were often only around half full and that the university was paying for empty space to be removed.

As a result, the five large skips were replaced with 14 smaller bins each with a capacity of 1100 litres. Office cleaners put rubbish directly into these bins and any cardboard waste is separated for recycling. All the waste is taken to a central compactor where it is stored for subsequent disposal to landfill. The compactor only has to be emptied once every 4-6 weeks, which has dramatically reduced the heavy vehicles movements on campus.

The total cost of the waste disposal service is dependent on both the number of vehicle movements and the cost per tonne of waste. The waste is now weighed at the landfill site which allows the university to quantify the volume of landfill waste being generated and to ensure that the costs paid reflect the true costs of waste disposal. As a result of these changes, the cost of waste disposal at the main campus has fallen by £15 000.

The University has chosen two separate contractors: one company provides the compactor and one removes the waste for disposal. The university believes it is better for some decisions to be made independently, in this case those relating to the frequency of waste collection and those relating to compaction and storage.

They have also found that, by stipulating a next-day collection service, they can ensure the compactor is emptied quickly and that there is no risk of waste being stored for long periods outside.



Case Studies - continued

Recycling at the Driver and Vehicle Licensing Agency (DVLA)

Every year, the DVLA recycles around 70% of its waste at both its main site in Swansea and at its local offices. In 2003/2004, approximately 1800 tonnes of waste was either re-used or recycled (see the Table below).

DVLA Waste Recycled or Re-used (April 2003-March 2004)

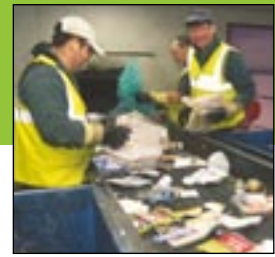
Stream	Quantity re-used/recycled (tonnes)
White paper	526
Mixed paper	447
Cardboard	174
Wooden pallets	83
Computer paper	35
Computer equipment	16
Furniture	13
Toner cartridges	5
Fluorescent tubes	1.5
Christmas cards	1
Glass	1
Aluminium cans	0.7
CDs	0.6
Plastic boxes	0.4
Plastic cellotape tubes	0.02
Mobile phones	0.01

As one of the largest consumers of paper in the UK government departments, the recycling of waste paper is high on the DVLA's agenda. A successful paper recycling service has been underway for several years to recycle white and mixed paper and cardboard. Staff separate white paper and mixed/coloured paper, which is then baled, weighed and stored for daily collection. The revenue for waste paper varies from £70-£175 per tonne of white paper and £20-£68 per tonne of mixed, depending on the negotiated contract. Prices fluctuate according to the waste paper market and are lower if the paper is contaminated by other waste such as plastic.

The DVLA sends 100% of its wooden pallets for recycling. The revenue it receives is negotiated with recycling companies. Redundant IT equipment is wiped of all information, refurbished and then re-used by schools. For over a year, the Environment Centre has collected surplus furniture for re-use in the community.

The DVLA also has a scheme for recycling toner cartridges. Procurement costs are negotiated for toner cartridges to include return of used cartridges for refilling. Glass bottles and jars are also separated and collected for recycling. Aluminium cans and mobile phones are collected for recycling with the proceeds going to charities such as Scope and the RNLI. In contrast to paper and pallets, the collection of fluorescent tubes, glass and CDs incurs a cost. The CDs are reprocessed into different plastic products such as street lighting, bins, etc.

The DVLA is trialling the recycling of some other items. For the last three months, a local play centre has collected plastic cellotape tubes and various boxes for use in the local playschemes. These are unusual items that would not normally have a recycling route.



Case Studies - continued

Recycling Centre at Her Majesty's Prison (HMP) Prescoed

The Prison Service has made a commitment to address environmental and sustainability issues through its procurement policy and strategy, and, in 2003/04, the Service's Procurement Action Plan introduced the following changes:

- Virgin paper has been removed from the product list on the stationery contract and the purchase of recycled paper has been made mandatory.
- The supply and maintenance of lighting now includes a requirement for low energy lamps and the provision of a recycling service.

The buyers in the Prison Service now use an Environmental Impact Assessment Checklist that aims to 'minimise waste by looking at recycling, packaging and product disposal during each project cycle'. This involves reviewing packaging with the aim of minimising the amount required and identifying opportunities for the return/recycling of packaging. The Contracts and Procurement Unit has also set up a recycling service for all non-lead acid batteries and a contract for the supply of refurbished and reusable physical education equipment.

The Prison Service continues to build upon and develop effective management of waste. Prisons are minimising their environmental impact by reducing the amount of waste generated and by recovering value from waste through re-use and recycling.

Her Majesty's Prison (HMP) at Prescoed has set up a recycling site, which is run by a senior member of staff who oversees a party of six prisoners. The prisoners collect all waste from Prescoed and transfer it to the recycling site for sorting. All wastes are stored and compacted, where appropriate, for the onward transfer to either reprocessors or registered waste operators. They are finding that more and more wastes can be separated and recycled, which is significantly reducing waste collections for landfill. They intend to extend the collection service to another site in Usk in the future.

HMP Prescoed is also working in partnership with Homemakers, a registered educational charity that promotes waste reduction and recycling. Homemakers now run a workshop and training facility where prisoners make and repair quality furniture, and dismantle redundant white goods. The workshop is linked to a county-wide collection service and provides work opportunities for prisoners.

Waste Minimisation Champion:
'The public sector in Wales
has a major role to play in
preventing and reducing waste
and I urge all our public sector
partners to participate fully in
this initiative.'

Carwyn Jones, Welsh Environment Minister



How to be an effective waste minimisation champion

Congratulations on becoming a Waste Minimisation Champion: this will be less of a burden and more of a mandate!

1.1 Information on High Level Corporate Buy-in

The first task of any Waste Minimisation Champion is to get:

- permission from the (line) manager to take on this role and carry out their tasks (by following the steps detailed in this document); and
- the support from senior management - support and commitment of senior management is necessary for the Champion to promote waste minimisation initiatives and to implement them effectively.

Your Chief Executive may have been contacted to sign up to the National Assembly for Wales' Public Sector Waste Minimisation Campaign. The Assembly sees your role as vital in achieving its targets. You will be instrumental in increasing resource efficiency and working towards your local authority's waste-related targets.

The wide-ranging nature of waste minimisation (which includes consideration of product design, purchasing, operations, engineering, distribution, finance, etc) means that it is essential to obtain the broad support of the whole management team.

One way of encouraging senior management support is to develop performance indicators that are reported regularly to a high management level. These measures provide a link between performance and the waste minimisation programme. Measurement of indices (eg percentage of raw material becoming waste) enables senior management to track progress.

1.2 The Champion's Role

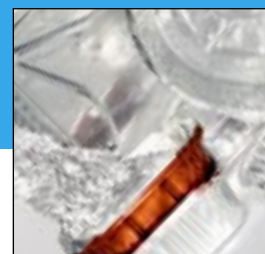
The key role of the Champion is to co-ordinate and to facilitate a waste minimisation programme. You are not required to complete all of the tasks yourself, but to create conditions for success by providing a focal point for communications, resources, action programmes and training. As a Champion you will:

- identify waste minimisation opportunities;
- prioritise waste minimisation initiatives;
- motivate colleagues to minimise waste;
- facilitate financial and resource savings; and
- monitor activities and successes.

Your main responsibilities will be:

- setting up waste minimisation team(s) (Section 1.2.1);
- allocating the 'ownership of waste' to various departments or individuals (Section 1.2.1);
- raising waste reduction awareness within the workplace (Section 1.2.1);
- co-ordinating waste segregation and measurement (Section 1.3);
- identifying opportunities to prevent waste (Section 1.4);
- locating priority action areas within the business (Section 1.4);
- working with suppliers to identify areas for materials reduction or recovery (Section 1.4); and
- creating monitoring systems that provide regular feedback to both managers and other colleagues (Section 1.6).

In the early stages of the programme, you will need to take the lead in collecting data on costs and quantities of raw materials and wastes (Section 1.3), and then identifying waste minimisation opportunities (Section 1.4). Raising the awareness and motivation of all staff is another important task (Section 1.2.1).



How to be an effective waste minimisation champion - continued

1.2.1 Motivating People to Reduce Waste

A crucial objective for any Champion is helping to create the motivation to reduce wastage, initially in the team members, and ultimately, in the whole organisation. You should consider and help to implement a variety of actions or changes, eg:

- facilitating the identification of problem areas within the organisation (Section 1.2.3);
- developing new performance measures and objectives for all employees (Section 1.4);
- building motivation through encouraging people to consider the environmental effects of waste both at the workplace and in the community; and
- promoting schemes that 'reward' individuals or groups for good ideas to reduce waste; benefits to employees could include:
 - recognition by senior management; and
 - a donation or similar benefit to a local community cause or charity of the employee's choice.

1.2.2 Managing Teams, Resources, Information and Programmes

Although the Champion is essential as the key focal point for communication, it is often the waste minimisation team or teams that actually achieve results. Planning and controlling activities for the smooth running of a waste minimisation programme include:

- setting clear, achievable goals and objectives for teams;
- setting realistic timescales for programme activities;
- identifying and planning resource needs (eg person-days, equipment, etc);
- monitoring progress and holding team meetings to identify actions needed to correct any problems or delays;
- collating information in a standard format for analysis and summary (see Waste Audit Proforma document); and
- 'standing back' from the detail of day-to-day activities to see if key areas are being neglected and/or to ensure that resources are being used effectively.

1.2.3 Overcoming Problems and Obstacles

A waste minimisation programme in any organisation is a major initiative, and as such, may run into problems or obstacles from time to time. An important role for the Champion is to help to avoid or remove these. These are some of the problems you may encounter:

- staff shortages and/or organisational changes;
- operational problems;
- delays in seeing benefits from waste minimisation; and
- maintaining interest in the programme.

1.3 Waste Audit

Once management has agreed with you your role, the first task is to monitor what kinds of rubbish are produced and how much of them. It is vital to know this before it can be decided where waste production can be avoided or minimised. To help with this, you may use the Waste Audit Sheet (to be found in Waste Audit Proforma document).

1.4 Setting Objectives and Targets

Think about the Waste Hierarchy (see Frequently Asked Questions document) and the Waste Minimisation Commandments:

- set yourself waste prevention options (eg switch to double-sided copying to reduce paper use or reduce the purchase of materials);
- re-use (eg use returnable glass milk bottles);
- identify materials that could be recycled (eg purchase recycled printer cartridges and recycle used ones); and
- consider whether there are any opportunities for composting (eg compost garden trimmings).



How to be an effective waste minimisation champion - continued

More information on re-use and recycling markets can be found at:

- Wales Environmental Services Association (WESA) www.esauk.org/wales
- Waste Awareness Wales (WAW) www.wasteawarenesswales.org.uk
- The Wales Environment Trust www.walesenvtrust.org.uk

List the waste reduction/recycling measures that have been identified so that they can be reviewed, prioritised and given an appropriate timescale for action. When evaluating the options, identify the costs and potential savings associated with each measure, as well as storage requirements, implementation time, and compatibility with existing operations.

1.5 Implementation Actions

Having determined the initial waste reduction measures to adopt, begin to implement the measures. Consider building the programme slowly, implementing a few options at a time, so nobody is overwhelmed by changes.

Inform colleagues about the measures and the importance of their cooperation and involvement. Be sure to update them regarding changes, benefits, roles and responsibilities.

1.6 Review Objectives and Targets

Evaluate and monitor the effectiveness of waste reduction/recycling measures periodically. Keep track of successes (eg waste reduced, recycling rates achieved, money saved) by re-auditing your waste regularly (eg every six months).

Identify new ideas for waste reduction and areas needing improvement and then set new objectives and targets.

The Welsh Assembly Government acknowledges the use of Envirowise materials in developing this 'Public Sector Waste Minimisation Resources Pack'.

FAQs: 'Together we can make a difference that will lead to reduced wastage of materials, energy and money.'

Carwyn Jones, Welsh Environment Minister



Frequently Asked Questions on Waste Minimisation and Recycling

1. What is waste anyway?

Waste or rubbish is what is thrown away because it is no longer needed or wanted. Almost everything we do creates waste, at home and at work. Every organisation produces waste and most of it will be found in skips or bins around your premises.

There are other types of waste including wastewater or effluent, smoke and fumes from industrial processes, and heat or energy losses. In addition, when you think about waste you should consider things like over-ordered or surplus supplies or materials, rejected or obsolete products and also waste from your contractors' operations.

All discarded materials and products are waste and have to be dealt with in some way.

2. What happens to our waste?

In Wales, around 70% of the waste is sent to landfills where the organic fractions decompose and the other components remain indefinitely. All our landfills are carefully managed and controlled to minimise the pollution to the environment, but everyone agrees this is not sustainable in the long-term and that landfilling sits at the bottom of the [waste hierarchy](#).

3. What you do mean by the waste hierarchy?

The waste hierarchy sets out the main methods for managing waste. The preferred option is [waste minimisation](#) or reduction. The next best option is [re-use](#), followed by [recycling](#) or composting. Then comes recovering value (eg energy) from waste and [landfilling](#) comes last. This is often shown in diagram form.

4. What is landfilling and why is it so bad?

Historically, Wales has landfilled (or 'dumped') much of its waste. At the most basic level landfilling involved putting waste in a hole in the ground and covering it with soil. Today, the engineering of a modern landfill is a complex process, typically involving lining and capping individual 'cells' in which waste is compacted and covered to prevent the escape of polluting liquid or gases. Systems are installed to capture and remove the gases and liquids produced by the rotting rubbish.

Over recent years, Wales has favoured landfilling for getting rid of our rubbish and this has been possible because of our geology. Mineral extraction and quarrying left large holes in the ground, which were restored by filling them with waste. In addition, the underlying geology often provided naturally impermeable ground conditions, allowing us to bury our waste with less risk of liquids seeping out and polluting groundwater. The consequence of this was that landfill was relatively cheap.

If not properly managed, landfills can cause harm to the environment or cause a nuisance. In the past, poorly-managed sites have resulted in polluted ground or surface waters and uncontrolled landfill gas generation. Without proper control, landfills can be a source of nuisance to neighbours as a result of, for example, odours, flies, litter or noise in the surrounding area.

There are other problems with landfilling that cannot be avoided by good site management and control. Many current landfill sites are nearly full and we are rapidly running out of suitable land, close to where the waste is produced, for new landfills. Most importantly, when we landfill our waste we are simply burying - and losing - our resources.





Frequently Asked Questions on Waste Minimisation and Recycling - continued

5. What is sustainable waste management?

Waste management can be considered sustainable if it is carried out in a way that does not place undue social, economic or environmental burdens on either present or future generations. It should ensure social equity, effective protection of the environment, prudent use of natural resources and the maintenance of high and stable economic growth and employment. Traditionally, we have seen volumes of waste grow in line with our economic growth. The aim is to de-couple waste production from economic growth.

6. What is waste minimisation?

Waste minimisation, waste reduction or waste prevention is all about reducing waste at source - not creating it in the first place. Excessive waste is often due to the inefficient use of resources, bad planning or incorrect procedures. How many times do you receive post that is thrown away straight away? How many times do you throw away disposable cups?

The Environment Agency has defined waste minimisation as *'the reduction of waste at source, by understanding and changing processes to reduce and prevent waste. This is also known as process or resource efficiency.'*

Waste minimisation is not recycling. Waste minimisation actually reduces what we use and therefore the amount of waste we discard. In terms of waste management, it is always the best option.

7. What is re-use?

Re-use means using a product more than once, either for the same purpose (eg returnable glass milk bottles) or for a different purpose (eg old jam jars for food storage). Repairing products to donate them to charity and community groups, or to sell them also reduces waste. Re-use, when possible, is preferable to recycling because the item does not need to be reprocessed before it can be used again.

8. What is recycling?

Recycling is an effective way to manage waste materials once they have been generated if they can't be re-used. It prevents waste from being sent to landfill and makes waste into new goods or products. This can involve turning the old material into a new version of the same thing or into something completely different. For example, used glass bottles can be recycled into new bottles, or they can be recycled into something different, such as road materials for use in construction projects. Effective recycling requires us to separate waste according to different materials so that they can be recycled efficiently.

9. What are the benefits of waste minimisation?

Avoiding the generation of waste in the first place is the best course of action and brings with it environmental and economic advantages. Creating waste damages our environment and we must all strive to reduce the environmental impact of waste. It is good environmental practice to minimise waste, but it is also good for your organisation. These benefits include, in particular, saving money!

- Businesses have found that waste minimisation programmes can save 1% of turnover through reduced purchasing costs and more efficient practices.
- Average payback periods for such initiatives are measured in months, not years.
- These cost savings are often not just 'one-offs' but recurring.
- Annual savings of around £1000 per employee are typically made through resource efficiency programmes.
- Many waste minimisation measures cost nothing, but yield significant results.
- Waste costs more than you may realise. When you consider the materials, the costs of treatment, energy and wasted labour, you will find the real price tag on waste is often several times the cost of disposal.

More information on how to minimise waste in your organisation can be found in [Waste Minimisation Commandments](#) and [How to be an effective Waste Minimisation Champion](#).



Frequently Asked Questions on Waste Minimisation and Recycling - continued

10. What are the benefits of recycling?

Recycling reduces the need to use new or virgin raw materials by extending their life and maximising the value extracted from them. For example, we don't have to mine new metals, if we can recycle our old metal scrap. It can also save energy and reduce air and water pollution in the production process. Not least, recycling helps us become more aware of environmental issues and encourages us to take personal responsibility for the wastes we create. Remember recycling is good, but not as good as waste minimisation.

11. I have heard the term 'green procurement', what does it mean?

Green procurement means thinking about the environment and specifying environmentally preferable products during the purchasing process. All products and services we buy lead to waste being created and discarded.

In the public sector, we can minimise waste by considering the environment when we make purchasing decisions (eg specific requirements can be included in the contract).

12. Can you give me some examples of green procurement?

When purchasing electronic goods, consider the consumables (eg electricity, water) they will use and how long the equipment itself will last before it is likely to be thrown away. For example, buying a double-sided printer reduces paper consumption. Make sure you are using refillable printer cartridges. Printers can be recycled when you no longer need them; check if the supplier will take them back. Before purchasing a new printer, ask yourself if you really need another printer or if staff can share the same one.

When arranging for a contractor to provide a service, you can specify that they are required to minimise or recycle their waste. You may suggest to them how they may do this. You may also require them to use recycled products or materials when they provide the service (eg landscaping contractors could be required to use soil conditioner made from recycled garden wastes).

The Welsh Assembly Government acknowledges the use of Envirowise materials in developing this 'Public Sector Waste Minimisation Resources Pack'.

Waste Audit Proforma: 'The most effective solution [to reduce waste sent to landfill] is to reduce the amount of rubbish we produce, and to look at our waste and ask ourselves whether it should be thrown away or if it can be re-used or recycled instead.'

Carwyn Jones, Welsh Environment Minister



Waste Audit Proforma

1.1 Introduction and Background Information

Many effective waste reduction measures can be adopted without the help of a waste audit (see [Waste Minimisation Commandments](#) document). However, the data generated in an audit can provide you with a much greater understanding of the types and amounts of waste your organisation generates. The knowledge itself may often suggest obvious waste reduction and re-use opportunities. In addition, these data sets can be invaluable in the design and implementation of a waste minimisation programme.

The key steps to conducting a waste assessment are:

- understanding the purpose of the waste assessment;
- taking a 'walk-about' of your organisation using the Waste Audit Sheet (found at the end of this document);
- sorting waste to examine its composition (optional); and
- documenting and filing the waste assessment.

Each type of waste audit activity is described below, following background information concerning relevant policy and legislation relating to undertaking waste audits, as well as waste minimisation programmes more generally.

1.1.1 Duty of Care Regulations

The Duty of Care is a law, which states that any organisation must take all reasonable steps to keep waste safe. If you give waste to someone else, you must be sure that they are authorised to take it and can transport, recycle or dispose of it safely. If your organisation breaks this law, it can potentially be fined an unlimited amount.

Some questions that public sector bodies may want to ask themselves are:

- Do we have a copy of the waste contractors' licence to collect/transport/recycle/dispose?
- Do we know where our waste is taken once it leaves our premises?
- Is our waste kept safe in containers on-site?
- Have we described the waste that is being collected in writing and received a transfer note from the contractors?
- Is each type of waste on the Duty of Care transfer notes recorded against its respective European Waste Catalogue (EWC) code (Section 1.1.3)?

More information on the Duty of Care Regulations can be found at:

www.environment-agency.gov.uk
www.defra.gov.uk

1.1.2 European Waste Catalogue (EWC)

The European Waste Catalogue (EWC) is a classification system for waste materials, using a six-digit code, which broadly speaking describes the type of process, and the industry or sector in which a waste type is generated. The EWC may prove to be a useful reference when undertaking waste audits as it categorises wastes based on a combination of what they are and the process or activity that produced them.

Due to legal restrictions on the types of waste that can be landfilled, it is important to categorise waste. In the future, everyone will have report using this code, so the Environment Agency has put together a consolidated version of the EWC (www.environment-agency.gov.uk/business/444217/444663/landfill/355572/).



Waste Audit Proforma - continued

1.2 The Purpose of the Waste Audit

The waste audit serves three basic purposes:

- to identify potential saving opportunities;
- to establish a baseline of data by collecting background information on waste generation and management practices; and
- to identify potential waste reduction options for further evaluation.

1.3 Walk-About Audit

A 'walk-about' involves touring your organisation and its grounds, observing the activities of staff, talking to employees about waste-producing activities and equipment. Specifically, the walk-about will enable you to:

- observe the types and relative amounts of waste produced;
- identify waste-producing activities and equipment;
- detect inefficiencies in operations or in the way waste is produced and moves through the organisation;
- assess current waste reduction efforts;
- collect additional information through interviews with supervisors and employees; and
- aid good housekeeping.

Before conducting the walk-through, contact should be made with the managers of the departments that will be visited to avoid disrupting department functions. It is also important to check and comply with your organisation's health and safety policies.

Check whether wastes are hazardous or require any special handling, storage and treatment. There are regulations concerning special wastes (those that are particularly hazardous) and packaging wastes (based on the amount of packaging you handle).

1.4 Documenting the Waste Audit

Have a look at the blank Waste Audit Sheet provided at the end of this document. The subsequent example sheet may prove a useful tool in gathering and recording data collected.

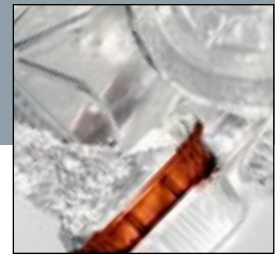
Be sure to document all information gained through the waste audit, as the data gathered will provide a record of the organisation's efforts to reduce waste, gather baseline data from which to investigate the feasibility of waste minimisation options, and develop a recordkeeping system so that savings can be tracked, quantified and subsequently evaluated. It would be best to set up a file or directory (preferably on a central system) where a copy of all waste audit sheets can be kept and other employees can access the information.

1.5 Sorting your Waste

If further information is needed, in addition to the walk-about, a sample of waste can be sorted to examine its composition. This involves the physical collection, sorting, and weighing of a representative sample of the organisation's waste. Do not forget to ask your manager what health and safety equipment you are required to use when sorting any type of waste. The goal of the sorting is to identify each waste stream and calculate as precisely as possible the quantity of materials produced over a given period of time (eg one day).

Before you start sorting your waste, you will need to determine which categories to quantify. The categories listed on the example Waste Audit Sheet may be a helpful starting point. A range of waste types may be generated depending on the nature of the organisation but typically, major components might include paper, cardboard, glass, metal and organic material.

For some organisations, it will be feasible to assemble and measure one day's worth of waste, for others it may be more appropriate to instead establish only what your department/floor produces. Seasonal and periodic variations in waste generation are also common.



Waste Audit Proforma - continued

1.6 Re-audit

In order to periodically evaluate and monitor the effectiveness of waste minimisation/recycling measures, re-audit and possibly re-sort your waste regularly (eg every six months).

1.7 Data Collection Hints!

1. If your organisation only generates a few types of materials, you might only need to inspect briefly waste generating activities in order for appropriate data to be collected.
2. Colleagues can be a valuable source of ideas for minimising waste. Interviewing colleagues on tours can offer important additional detail on waste generation and practices, and also helps keep them informed and interested in the overall waste minimisation programme.
3. When sorting your waste, remember to provide appropriate safety and protection gear. For example, gloves should be used if bins are being emptied while sorting waste and the wearing of high-visibility jackets should be considered during a walk-about.

The Welsh Assembly Government acknowledges the use of Envirowise materials in developing this 'Waste Minimisation Online Resources Pack'.



Example Waste Audit Proforma

PROFORMA WASTE STREAM AUDIT			
Department: <i>Administration</i> Name: <i>John Smith</i>		Date: <i>01/07/2005</i>	Sheet: <i>1</i> of <i>5</i>
Process or activity	Type of waste	Estimated amount of waste produced week/month/year	Current waste reduction activities/ Potential waste minimisation activities
<i>Receiving office paper deliveries</i>	<i>Cardboard boxes (packaging)</i>	<i>About 50 boxes per year</i>	<i>Recycling of cardboard</i>
<i>Photocopying</i>	<i>Office paper</i>	<i>About 1 small bin per week</i>	<i>Already being reused as scrap paper</i>
<i>Use of computers</i>	<i>Electronic equipment</i>	<i>20 computers annually</i>	<i>Consider leasing, rather than buying equipment. Donate used computers to schools, local groups or charities</i>
<i>Employee catering</i>	<i>Employee catering</i>	<i>2 black bags weekly</i>	<i>Stop using disposable products (eg milk cups/sugar sachets)</i>
<i>Upkeep of garden - use of compost</i>	<i>Clippings and organic waste</i>	<i>2 large garden sacks monthly</i>	<i>Compost organics Use waste derived compost</i>

Print/photocopy the Example Sheet on the back of the Audit Sheet

Note: You may use this information to produce reports relevant findings such as financial savings or number of skips saved etc, and present them to your manager.

