Know your waste: EAUC training

February 2010

Session 1

Introduction

Welcome

- About the trainer
- About ECUS.

Housekeeping

- Breaks
- Lunch
- Timings
- Fire alarms and exits
- Mobile phones
- Smoking
- Handouts/slides
- Join in!

Course programme

Session	Time
Session 1: Introduction	09.30am
Session 2: The impact of waste	09.45am
Exercise 1: Drivers, benefits and barriers to successful waste management	10.30am
Break	11.00am
Session 3: It's the law!	11.15am
Exercise 2: Duty of care exercise	12.15pm
Lunch	12.45pm
Session 4: Waste management	13.30pm
Session 5: Waste auditing	14.15pm
Exercise 3: Virtual waste audit	14.45pm
Break	15.30pm
Session 5: Implementing a waste management action plan	15.45pm
Exercise 4: Action planning	16.00pm
Session 7: Summary	16.30pm
Close	16.45pm

Housekeeping

- Format

- Key actions

- Tools/tips

Today

✗

- Detail
- Critique of waste disposal options
- Consultancy on specifics

✔

- Interesting
- Fast-paced
- Principles and concepts
- Share best practice
- Thought provoking

Who are you?

Please introduce yourself and let us know:

- Who you are
- Where you work
- Your role
- Expectations from the day.

a) New to waste | **b) Seeking reassurance** | **c) Best practice**

1) Initial stages | **2) Intermediate stages** | **3) Advanced stages**

Course aims & objectives

- To provide an introduction to the impact of waste globally, nationally and in the HEFE sector
- To understand the key requirements of waste legislation in Scotland
- To gain a comprehensive understanding of the practicalities of waste management
- To be able to carry out a waste audit
- To implement a waste action plan.

Session 2

The impact of waste

Exercise

In pairs define 3 of the biggest impacts of waste in relation to:

- the environment
- society
- the economy

You have 5 minutes!

Our thoughts

Environment:

- Landfill sites
- Loss of resources
- Greenhouse Gases

Society:

- Loss of land
- Pollution/air quality
- Resource inefficiencies

Economy:

- Costly
- Inefficient
- Taxation.

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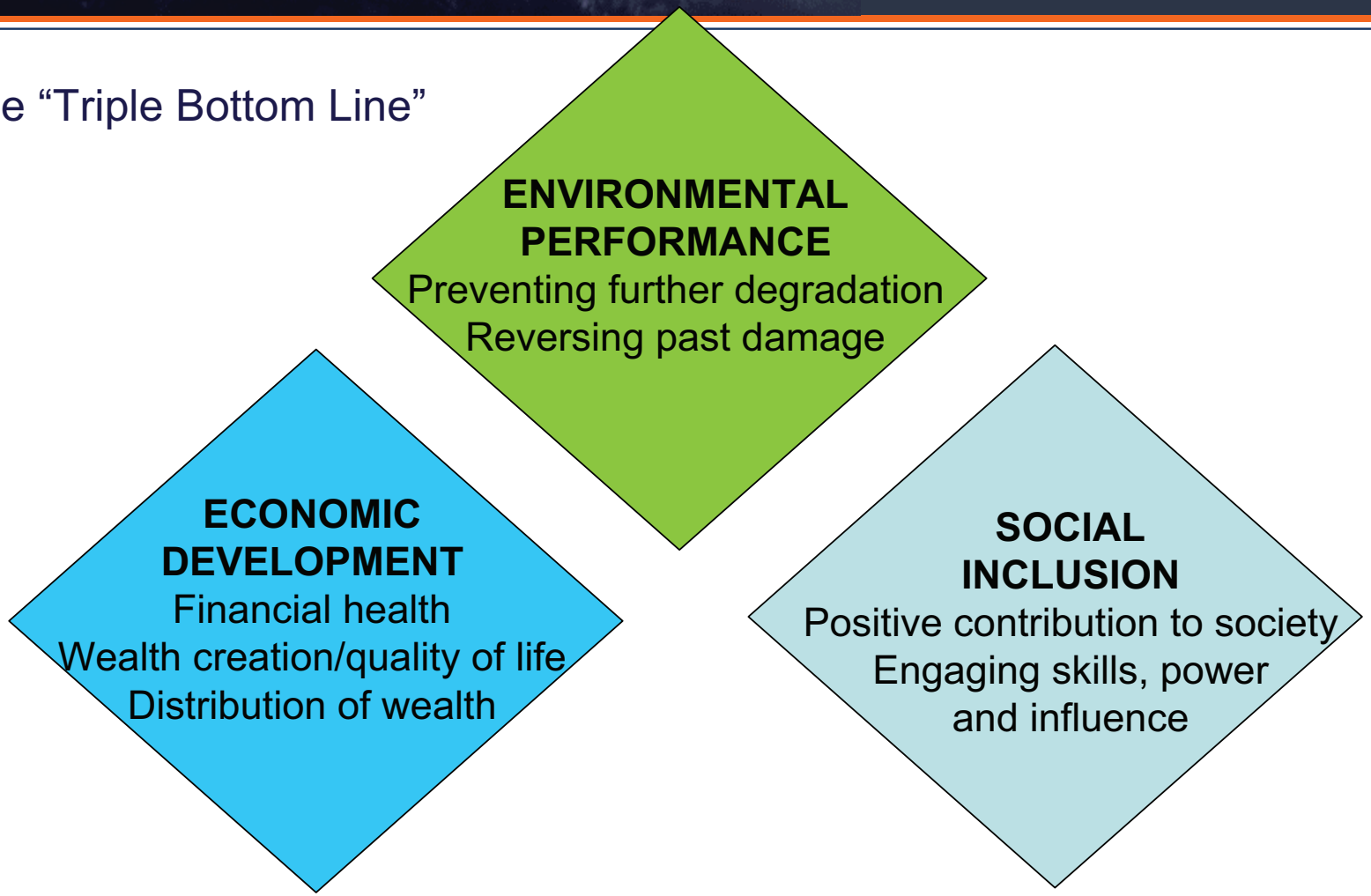
Sustainability

The “Triple Bottom Line”



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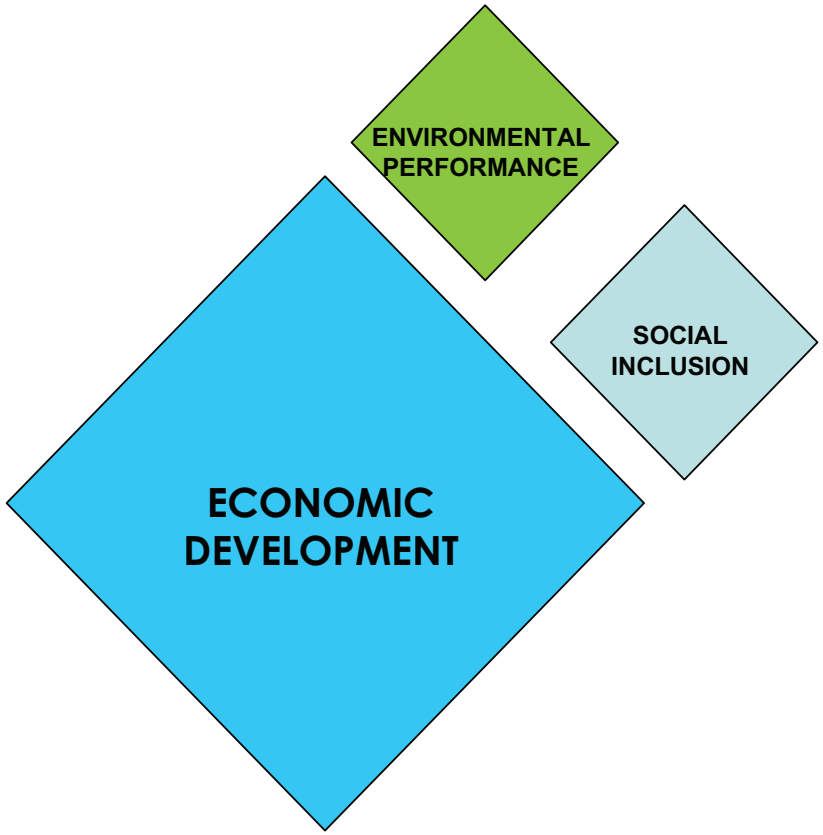
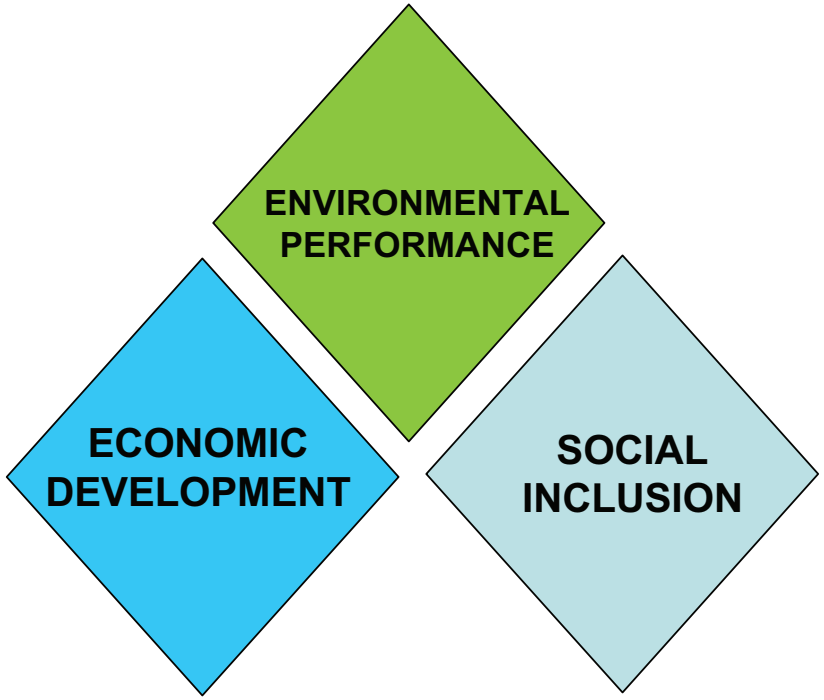
Sustainability

Current scenario:
weak sustainability



Ideal scenario:
strong sustainability



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Sustainability

- If everyone in the world lived as we do in the UK, we would need three worlds to support the population.

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Waste: the issue

Vermin

Landfill space

Polluting

Cost

GHG emissions

Littering

Odour

Noise

Disposal impacts

Dust

Loss of resource

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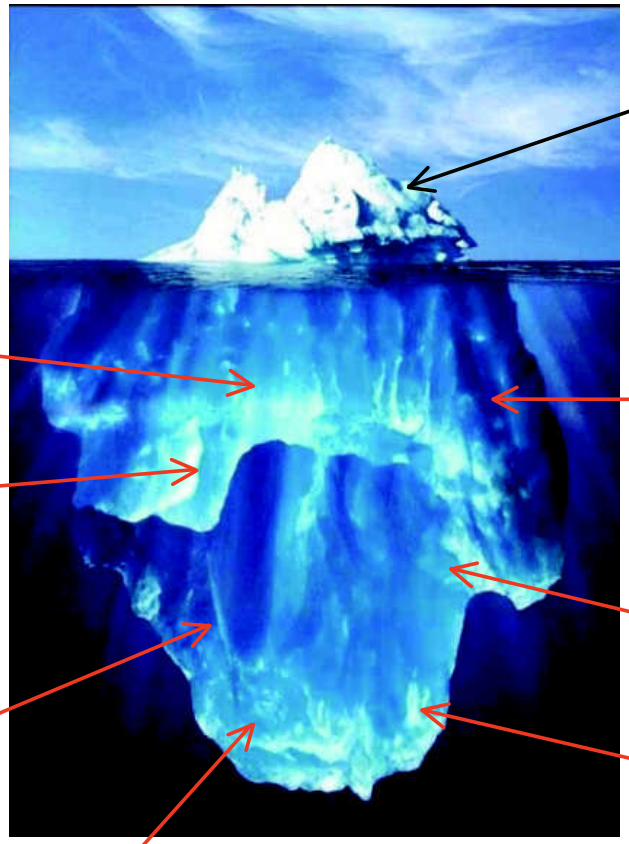
Waste: the issue



Cost of bin/skip

GHG emissions

Labour

Prosecution

Unused materials

Disposal costs

Void space

Transport

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Waste: the issue

- All encompassing - affects every activity, process, individual

Key question: Who creates waste and why?

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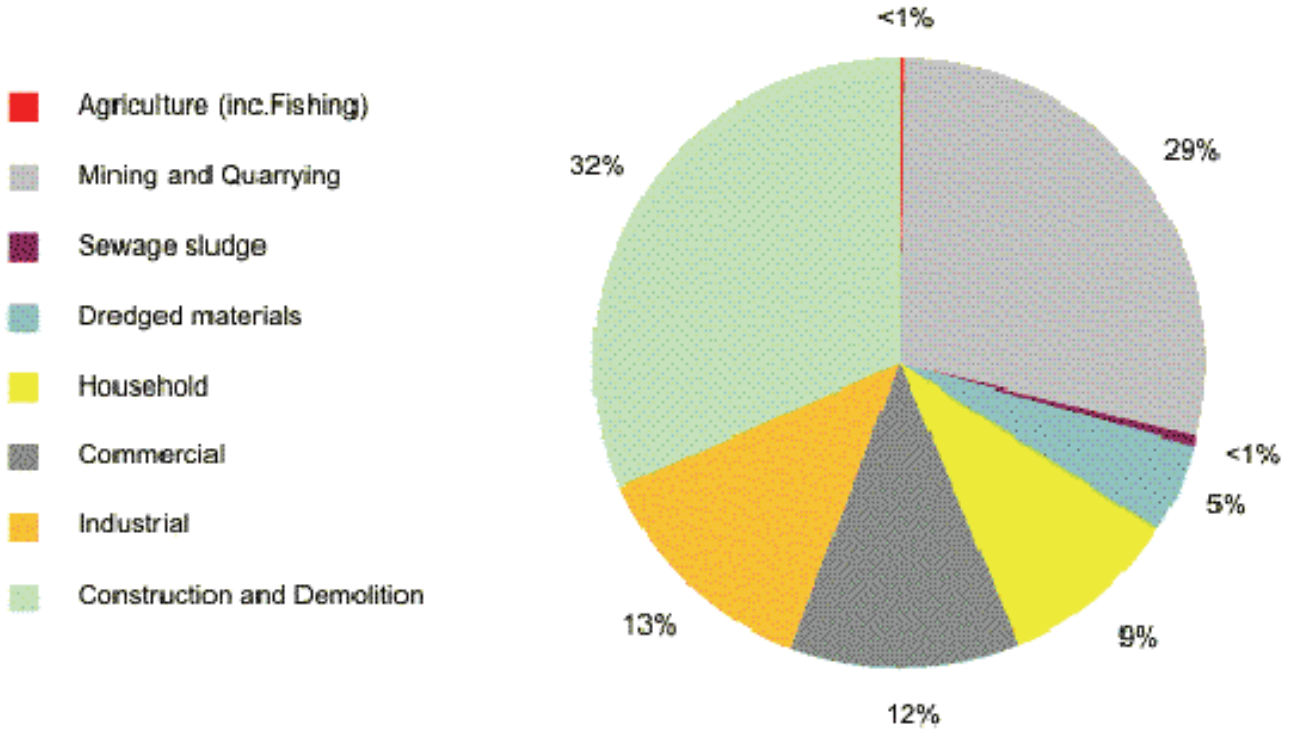
Who creates waste?

Estimated total annual waste arisings by sector : 2004



Total = 335 million tonnes

Source: Defra, ODPM, Environment Agency, Water UK

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Waste: key facts

- 8.6 million tonnes of paper the UK recycled here and abroad last year saved 11 million tonnes CO_2e - equivalent to taking 3.6 million cars off the road
- Selling the UK's used plastic bottles and paper for recycling in China actually saves emissions. Shipping these materials more than 10,000 miles produces less CO_2then sending them to landfill at home and using brand new materials
- More energy is saved by recycling plastics than is gained by burning them. Recycling saves 2 tonnes of CO_2equivalent emissions per tonne of plastic in comparison to incineration
- In 83% of circumstances, recycling paper, card, glass, plastics and metals was preferable to any other waste management option - currently estimated to save over 18 million tonnes of CO_2e green house gas emissions.

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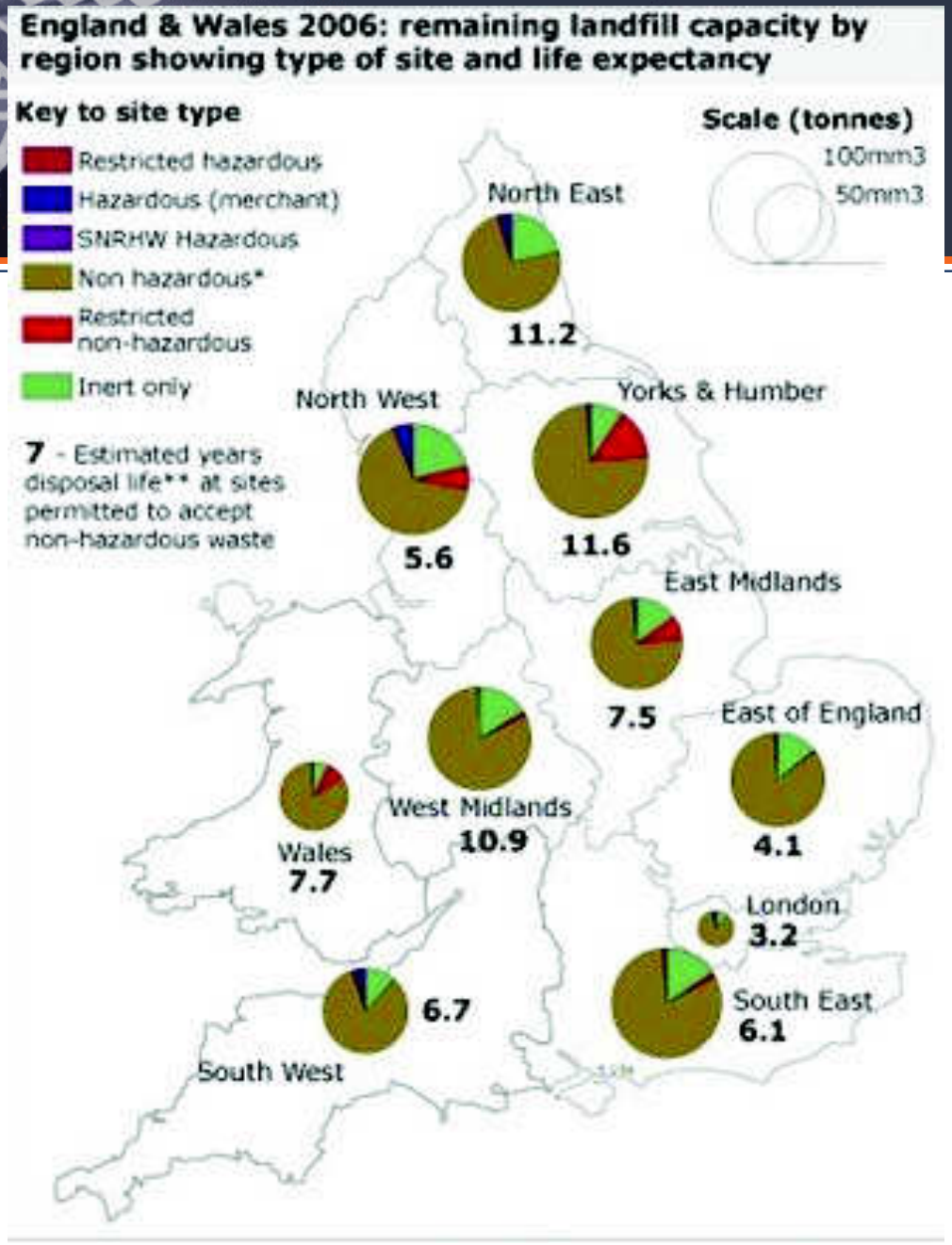

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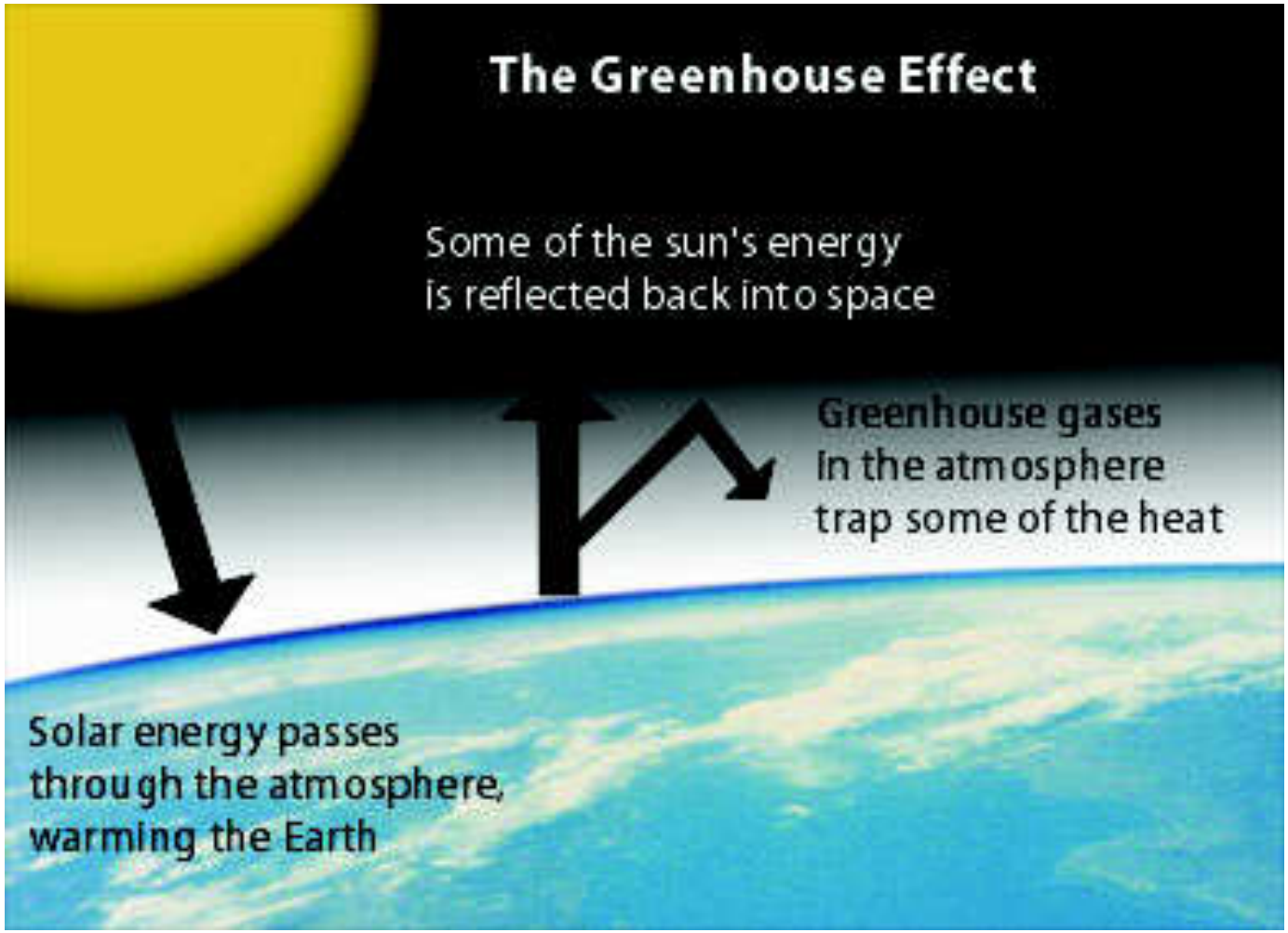
Climate Change: overview



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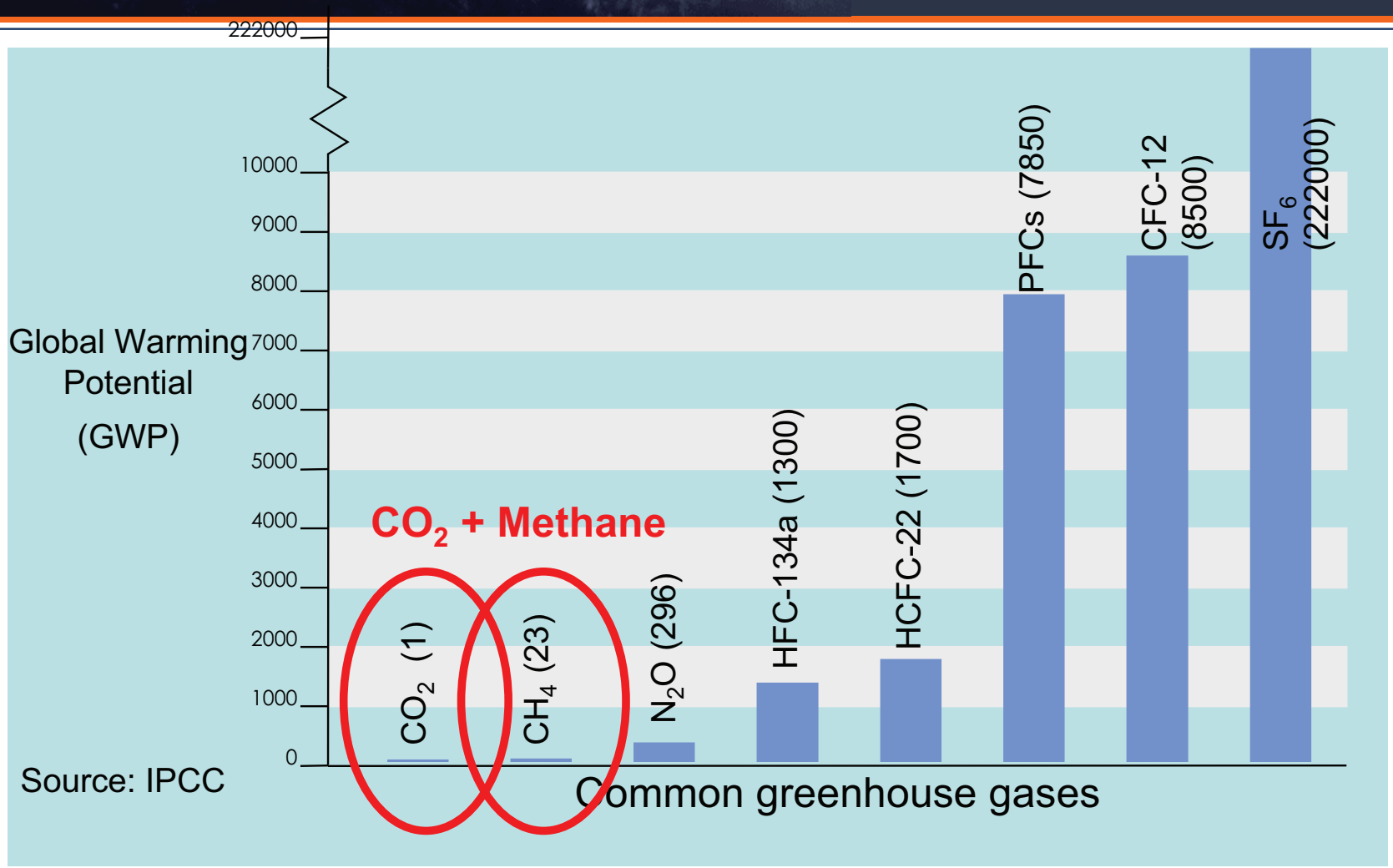
Climate Change: greenhouse gases (GHGs)



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Climate Change: waste & GHGs

	GHG emissions saved (tonnes carbon equivalent per tonne of material)		
Material	Incineration: 32 km	Recycling: 32 km	Recycling: 320 km
Newspaper	-0.241	-0.944	-0.714
Mixed paper - residential	-0.211	-0.734	-0.684
Aluminium cans	0.030	-4.269	-4.049
Glass	0.027	-0.087	-0.028
PET plastic	0.313	-0.684	-0.384

Table 3: Changes in GHG emissions with distance to a recycling facility *The table shows that, as expected, GHG emissions increase if the distance to a recycling facility is increased (ten-fold here just for illustration). However the GHG savings are still much greater than for incineration locally. Figures were calculated using the US EPA "WARM" model (v 1.9).*

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What's happening?

HEFE: carbon

•Low Carbon Transition plan (July 09):

"Every part of Government will need to help drive the transition that is needed to live within the UK's carbon budgets. For the first time, each major government department will now have its own carbon budget representing its share of responsibility …… From April 2010, it will also include emissions from schools, further and higher education institutions and the NHS."

Key action!

Contextualise waste when raising awareness, gaining buy-in and instigating change

Exercise 1

Break!

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Session 3

It’s the law!

Waste legislation

Global

- Basel Convention

EU

- Waste Framework Directive
- Hazardous waste Directive
- Other waste related directives

Scotland

- Environmental Protection Act
- Environment Act
- Waste Management Licensing

Waste legislation

What are the primary aims of waste legislation in the EU and Scotland?

- Reduction in waste
- Reduction in time/cost to Government to handle municipal waste
- Reduce necessity of landfill sites
- Encourage waste markets to be more efficient
- Increase reduction and re-use and recycling of waste
- Any more?

Zero waste 2010

- 70% recycling of MSW
- Max 25% MSW to EfW
- Max 5% waste to landfill
- No growth of MSW
- Data required from industry & commerce
- All businesses working at resource efficiency
- Public green procurement.

What is waste?

‘Any substance or object… which the holder discards or intends or is required to discard’.

EU Directive: 75/442/EEC

- EU legislation: if a material is to be subjected to a disposal or recovery operation, then it is waste.

What is waste?

1. There is **no definitive list** of what is and is not waste
2. It is the **responsibility of the holder** of the substance or object to determine, on a case by case basis, whether it is waste or not
3. Although a waste may be **sold or traded**, or is capable of being recovered, this does not necessarily mean that it has ceased to be waste.
4. Waste **ceases to be waste** when it has been fully recovered and no longer poses a potential threat to the environment or to human health.

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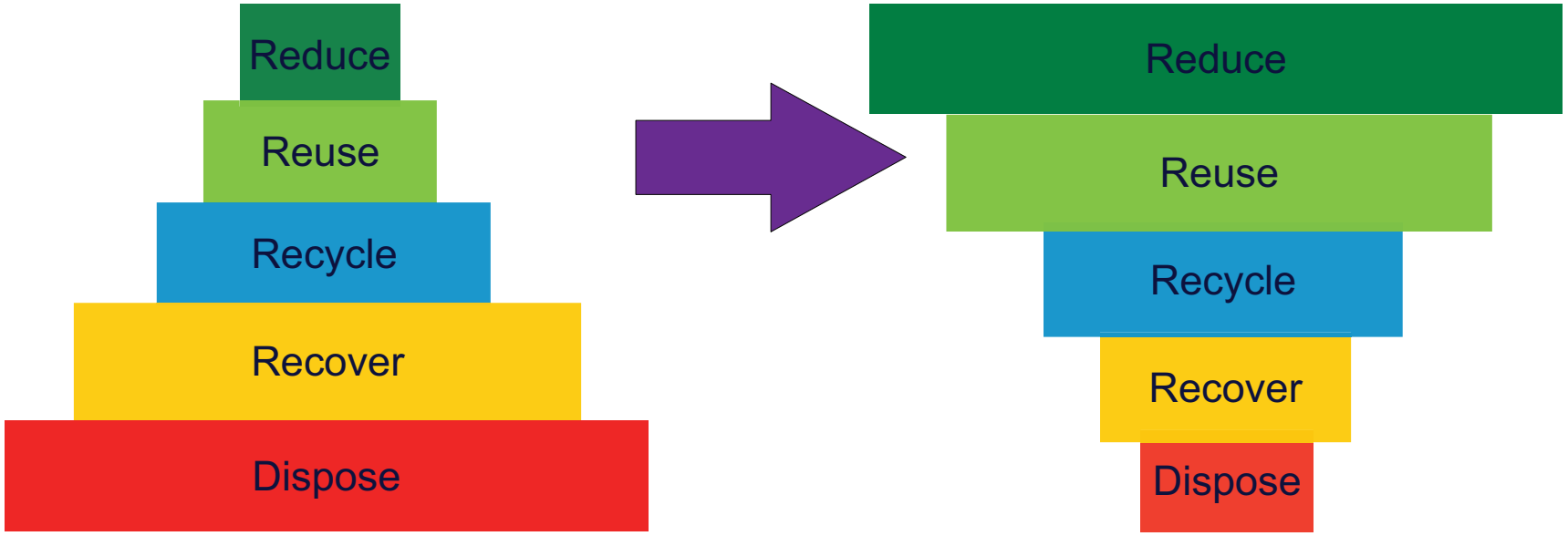
EU WFD: Waste hierarchy

The primary driver for waste management in the EU



Current waste legislation

Legislation / Regulator	Requirements

Waste Management Licensing Regulations 1994 (as amended 2005)
 	
SEPA
	▪ A WML is required to authorise the:
	  ▪ deposit of controlled waste;
	  ▪ disposal and treatment of controlled waste;
	  ▪ use of certain mobile plant to dispose of, or treat, controlled waste.
	▪ SEPA are the regulatory authority for all waste management licences
	▪ A number of waste management activities are exempt from the need for a waste management licence, and these are contained in Schedule 3 of the Regulations…

Waste exemptions

- Simple:
  - Must be registered with SEPA before they commence;
  - No fee for registration (can register online);
  - The registration lasts as long as you are carrying out the activity.
  - E.g.
- Complex:
  - Supporting data is required;
  - Must also be registered with SEPA before they commence;
  - A registration fee must be paid;
  - Registrations last for 12 months and can be renewed by submitting a renewal form and renewal fee to SEPA;
  - Registrations must be made at least 21 days before the activity is due to be carried out.

WML exemptions

Simple:

- Para 17 – storage of waste in a secure place
- Para 18 – storage of waste in a secure container
- Para 27 – baling, compacting, crushing, shredding or pulverising waste at the place where it
- Para 50 – storage of WEEE pending recovery elsewhere

Complex:

- Para 7 – spreading of waste on land
- Para 19 – storage on a site of waste which arises from demolition or construction work or tunnelling or other excavations or which consists of ash, slag, clinker, rock, wood or gypsum, if—
  - (a) the waste in question is suitable for use for the purposes of relevant work which will be carried on at the site; and
  - (b) in the case of waste which is not produced on the site, it is not stored there for longer than three months before relevant work starts.

Legislation / Regulator	Requirements
Control of Pollution (Amendment) Act 1989 **SEPA**	▪ If you carry waste produced by your own business you don't usually need to register, unless you produce construction or demolition waste ▪ A fixed penalty notice of £300 may be served for the offence of a failure to produce a waste carrier's licence. ▪ Registration currently costs £158 and lasts 3 years ▪ Renewal costs £105

Legislation: Duty of Care

Legislation / Regulator	Requirements
Environmental Protection Act Part II: Duty of Care **SEPA**	▪ Ensure waste does not escape your control ▪ Ensure that your waste is handed to an authorised waste carrier ▪ Ensure that waste is stored on site so as to prevent its escape ▪ The Act sets out a system of documentation to ensure that waste can be tracked until final disposal… ▪ **Your waste is your responsibility until final disposal.**

Checking Licences

- Searchable Environment Agency web-based database
- Ability to check validity of companies' carrier's licences
- Covers Scotland as well as England and Wales

www2.environment-agency.gov.uk/epr

WTN: Example

Duty of Care Waste Transfer Note

Section A – description of waste

1. Please describe the waste being transferred:

2. How is the waste contained?

Loose ☐ Sacks ☐ Skip ☐ Drum ☐

Other ☐ *Please describe:*

3. What is the quantity of waste (number of sacks, weight etc):

4. European Waste Catalogue code (6 -digit code): ☐☐☐☐☐☐

Section B – Current holder of the waste (Transferor)

1. Full name (BLOCK CAPITALS):

2. Name, address and postcode of company:

3. Which of the following are you? (Please tick one o r more of the boxes)

Producer of the waste :	☐	Holder of waste d isposal or waste management licence :	☐	Licence number: Issued by:
Importer of the waste :	☐	Exempt from requirement to have a waste disposal o r waste management licence :	☐	Give reason:
Waste collection aut hority :	☐	Registered waste carrier :	☐	Registered number: Issued by:
Waste disposal authority : (Scotland only)	☐	Exempt from requirement to register :	☐	Give reason:

Section C – Person coll ecting the waste (Transferee)

1. Full name (BLOCK CAPITALS):

2. Name, address and postcode of company:

3. Which of the following are you? (Please tick one or more of the boxes)

Authorised for transport purposes:	☐	Specify which of those purposes:		
Waste collection authority	☐	Holder of waste disposal or waste management licence	☐	Licence number: Issued by:
Waste collection authority (Scotland only)	☐	Exempt from requirement to have a waste management licence	☐	Give reason:
	☐	Registered Waste Carrier	☐	Registration number: Issued by:
	☐	Exempt from requirement to register	☐	Give reason:

Section D

1. Address of place of transfer / collection point:

2. Date of transfer:

3. Time(s) of transfer (for multiple consignments, give 'between' dates):

4. Name, address and postcode of broker who arranged this waste transfer (if applicable):

Transferor:	*Transf eree:*
5. *Signed:*	*Signed:*
Full name:	*Full name:*
(BLOCK CAPITALS)	*(BLOCK CAPITALS)*
Representing:	*Representing:*

PART A: Details of the waste including a waste description, how it is contained, what the quantity is and the relevant European Waste Catalogue code for the waste

PART B: Name and full address of the current holder of waste including options as to whether or not the holder (the transferor) of the waste is licensed or exempt from licensing (if necessary).

PART C: Name and full address of the person / organisation collecting or carrying the waste including options as to whether or not the carrier (the transferee) of the waste is licensed to do so or exempt from licensing.

PART D: Address of the place accepting the waste, the date of transfer, the name and address of the waste broker (if applicable) and then signed confirmations from the transferor and transferee.

Identifying Hazardous wastes

- EWC Catalogue and List of Wastes

1. Waste by source (Ch 1-12, 17-20)
2. Waste "not otherwise specified" (Ch 16)
3. Waste by type (Ch 13-15)
4. Absolute and Mirror

- Ch 15 packaging
- Ch 17 Construction
- Ch 20 municipal and separately collected fractions

Legislation: Special Waste

Legislation / Regulator	Requirements

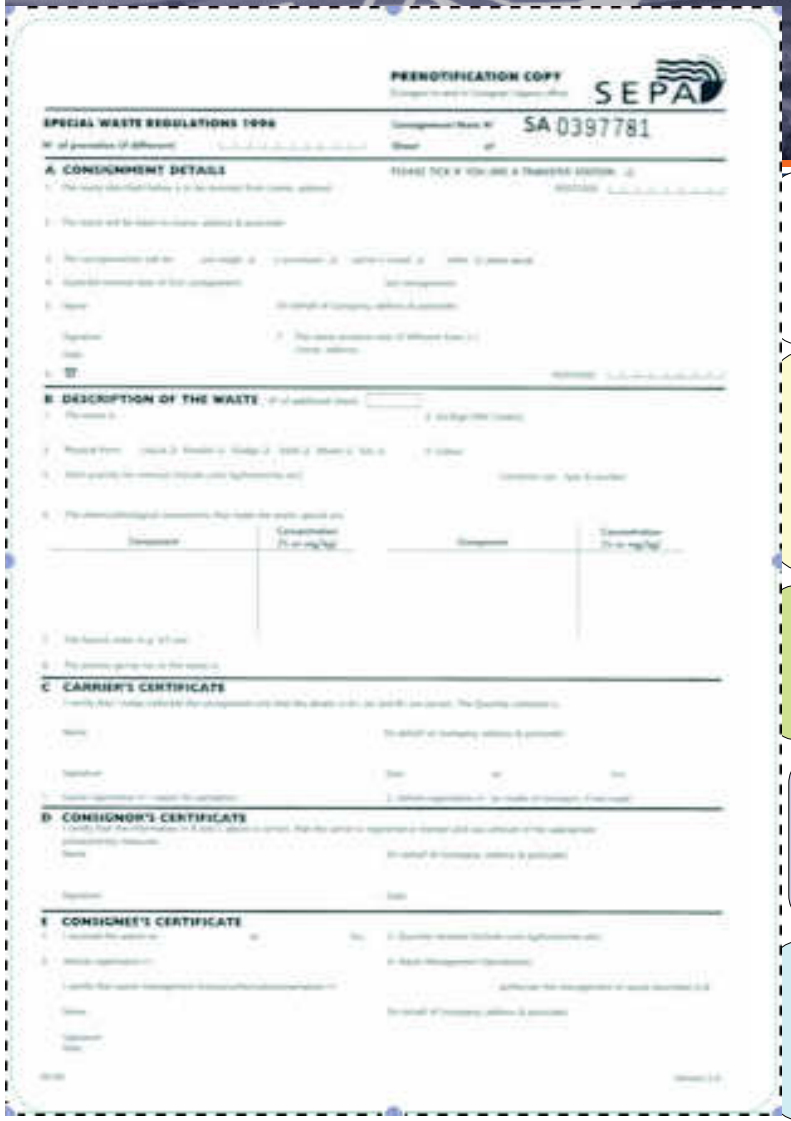
Special Waste Regulations 1996 (as amended)
 	
SEPA
	▪ A consignment note must be completed for all special waste, which identifies the correct hazardous properties of the waste in accordance with the European Waste Catalogue. This must contain the following information:
	  ▪ Relevant code
	  ▪ Six digit code from the European Waste Catalogue
	  ▪ Postcode of the producer of the waste
	▪ Five copies of the consignment note must be prepared.
	▪ Mixing of different types of special waste is prohibited, as is mixing special waste with non-special waste.

Legislation: Special Waste

Legislation / Regulator	Requirements

Special Waste Regulations 1996 (as amended)
 	
SEPA
	▪ SEPA must be pre-notified of all movements of special waste 72 hours in advance (including waste imported or exported to England.
	▪ Some wastes are exempt from the pre-notification requirement, including consignments that are:
	  ▪ Consignments that consist solely of lead acid motor vehicles batteries
	  ▪ Removed from a ship then transported away from the harbour area;
	  ▪ Transferred within companies of the same organisation providing certain waste management conditions are met;
	  ▪ Are returned as off-specification material to a supplier.
	▪ Copies of consignment notes must be retained for three years.

Special Waste Consignment note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SEPA

SPECIAL WASTE REGULATIONS 1996

SA 0397781

A CONSIGNMENT DETAILS

B DESCRIPTION OF THE WASTE

C CARRIER'S CERTIFICATE

D CONSIGNOR'S CERTIFICATE

E CONSIGNEE'S CERTIFICATE

•PART A: Notification details including name and full address of the current holder of the waste, and the address of where the waste must be taken to, type of movement, expected removal date, consignors signature & phone number.

•PART B: Details of the waste including a full waste description, the relevant European Waste Catalogue code, physical form, colour, how it is contained, what the quantity is, hazardous components and hazard codes and the process giving rise to the waste.

•PART C: Name and full address of the person / organisation collecting or carrying the waste. This section must be signed, dated and timed and the vehicle registration stated.

•PART D: Consignor's certificate, requiring full name and address, confirming that all information is Parts A – C is correct. This section must also be signed, dated and timed.

•PART E: Consignee certificate to be completed by the consignee at the final place of disposal, and sent to SEPA.

Legislation: Landfill Regulations

Legislation / Regulator	Requirements

Landfill (Scotland) Regulations 2003
 	
SEPA
	▪ All landfill sites require a permit to operate
	▪ Planning permission for a landfill site is also required under the Town and Country Planning (Scotland) Act 1997
	▪ Before granting a permit, SEPA must classify the landfill as being for either:
	  ▪ Hazardous waste;
	  ▪ Non-hazardous waste;
	  ▪ Inert waste.
	▪ There are some exemptions for landfill sites on islands and isolated settlements
	▪ SEPA has the power to serve a closure notice on the operator of a landfill site

Legislation: Landfill Regulations

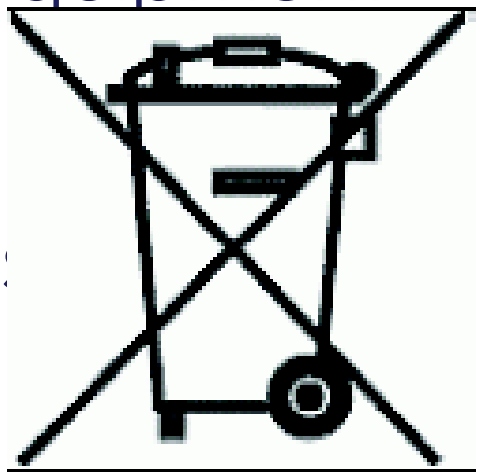
Legislation / Regulator	Requirements
Landfill (Scotland) Regulations 2003 SEPA	**Requirement to pre-treat before landfilling** **1. Must be a PHYSICAL, THERMAL, CHEMICAL, or BIOLOGICAL PROCESS, including sorting** **2. Change characteristics of waste** **3. Do so in order to:** **a) Reduce volume** **b) Reduce hazardous nature** **c) Facilitate handling** **d) Enhance recovery**

Legislation: WEEE

Legislation / Regulator	Requirements
Waste Electronic and Electrical Equipment (WEEE)	▪ **KEY POINTS** a) All businesses that use electrical and electronic equipment (EEE) must comply b) You must store, collect, treat, recycle and dispose of WEEE separately from your other waste. c) You must obtain and keep proof that your WEEE was given to a waste management company, and was treated and disposed of in an environmentally sound way (AATF).

Legislation: WEEE

- Small household appliances
- IT and telecommunications equipment
- Consumer equipment
- Lighting equipment
- Electrical and electronic tool
- Toys
- Medical equipment systems
- Monitoring and control instruments
- Automatic dispensers



Waste brokers

- If renting out buildings and acting as a waste broker/manager

Other legislation

- Packaging Regulations
- Animal By-Products

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Future waste legislation

Future waste legislation

Legislation	Requirements

New Waste Framework Directive 2008/98/EC	▪ Adopted in 2008 (UK has 2 years to transpose it)
	▪ Encourage more re-use and recycling e.g.
	  ▪ 50% household recycling and re-use by 2020
	  ▪ 70% non-hazardous construction and demolition waste by 2020
	▪ Waste hierarchy now part of European law
	▪ “Energy efficient” incineration = recovery (to reduce consumption of fossil fuels)
	▪ Hazardous waste must be packaged and labelled in the course of collection, transport and temporary storage

Managing compliance

Managing compliance

- Key steps to managing compliance:

1. Create a legal register
2. Assess which legislation is applicable to you (i.e. all the legislation in this section)
3. Carry out a waste legal audit (with trained auditors)
4. Assess compliance (e.g. Use 1-3 rating where 1 is compliant, 2 is compliant with a ‘watch’ and 3 is non-compliant.

Managing compliance

- Netregs
- Croner
- Cedric
- Consultants

Assign responsibility for checks, updates and compliance related actions.

Top tips

- SW - Segregation and storage
- Paperwork – subcontractors
- Look out for informal waste recycling
- Liquid wastes
- Responsibility and competence
- Investigate exemptions

Key actions!

Ensure legal compliance

- Create a waste legal register
- Check compliance regularly
- Stay abreast of changes

Exercise 2

Lunch!

Session 4

Waste management

What is waste management?

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HEFE & waste

Key questions on waste management:

1. What wastes are produced?
2. How much waste is produced?
3. Which activities produce waste?
4. Why is each waste produced?
5. Who is responsible for waste?
6. How is waste stored?

Establishing the baseline

1. What types of waste?

Identify:

i.Waste streams (type of waste e.g. Controlled wastes, special wastes, waste with value)

ii.Current waste disposal methods, carriers etc.

A	B	C	D	E	F	G	H	I	J	K
WASTE STREAMS	**NON-HAZARDOUS**						**HAZARDOUS**			
	General office waste	Paper & Cardboard	Plastic bottles/bags	Aluminium tins/cans	Glass		Ink cartridges	WEEE	Fluoroescent tubes	Contaminated soil samples
Waste Carrier										
Waste Carrier's licence										
Waste handler from ECUS										
Responsibility										
EWC code										
Total waste 2009 (tonnes)										
Total waste 2008 (tonnes - where available)										
Notes										

2. How much waste?

- Waste volumes:
  - Per skip/bin/container
  - Per waste stream
  - Per building
  - Per department
  - Per disposal route

- Look for large quantities and anomalies
- Monitoring & measuring.

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University of Nottingham

Clean & Green

◂ UoR Home
◂ Clean & Green Home
About us
Ethical procurement and Fairtrade
Sustainable development
Carbon management
Recycling and waste management
What we have recycled
Clean and Green team and initiatives
Recycling facilities
Waste disposal
Green transport
Get involved
Our research

See also
▸ Select Environmental Services

What we have recycled

Since August 2007, 1,153 tonnes of waste collected from all University properties (excluding farms) of which we have successfully recycled 372 tonnes (32%):

- 162 tonnes of mixed recyclables
- 97 tonnes of card & paper
- 25 tonnes of IT equipment
- 24 tonnes of glass
- 18 tonnes of metal
- 17 tonnes of wood
- 15 tonnes of clothing
- 9 tonnes of confidential waste
- 3 tonnes of fridges/freezers

Thus reducing the amount (781 tonnes) sent to landfill. Using an advanced 'Pay by Weight' system and being the largest company in Berkshire to do so, the University carefully manages all of its waste streams. We aim to raise this figure to 50% by 2012.

What we recycle

Here is a summary of the recycling carried out by the University:

- Since October 2005, 37.043kgs of redundant IT equipment has been collected of which 91% has been reused and 9% has been recycled.
- Bottles Banks were installed at Central Catering/RUSU in February 2005 and at Halls with bars since March 2007.
- Fridges and freezers are stored and when the container is full they are taken to be de-gassed and re-processed.
- Confidential waste is shredded on site and then made into fuel pellets. Between August 2005 and February 2007, 21,193kgs of paper has avoided expensive landfill costs.
- Clothing Banks were installed at all Halls during the summer term and due to its success, there are plans to roll this out more extensively in the future.
- Three 40 cubic yard containers have recently been installed for the collection and recycling of

3. Which activities?

- Teaching?
- Research?
- Central services?
- Catering?
- Accommodation?
- Construction?
- General campus waste?
- Large events?
- Any others?

- Understanding which specific activities create waste can help to inform your waste action plan by targeting waste-intensive activities.

4. Why is waste created?

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Lack of value placed on items and objects

Lack of awareness

Habits and culture

WHY?

Resource and process inefficiencies

Poorly managed supply chains

5. Who creates waste?

- WHO?

– Employees
– Visitors
– Students
– Public - users of facilities
– Subcontractors
– Suppliers

- WHERE?
  - Offices
  - Lecture halls/classrooms
  - Labs
  - Catering outlets
  - Student facilities:
    - Union
    - Learning centre
    - Sports centre
    - Accommodation

5. Who is responsible for waste?

- Waste segregation
- Waste handling and transportation
- Waste containers
- Waste paperwork
- Waste contracts
- Waste policy and procedures
- Waste training
- Waste communications

- Assign responsibilities
- Waste committee?
- Regular communications
- Clear instructions and guidance

6. Waste storage

- Containers
- Labels
- Weights
- Numbers
- Location
- Full to capacity?

Establishing the baseline – HOW? Auditing

This will result in an action plan

NOTE: compare theory with reality!

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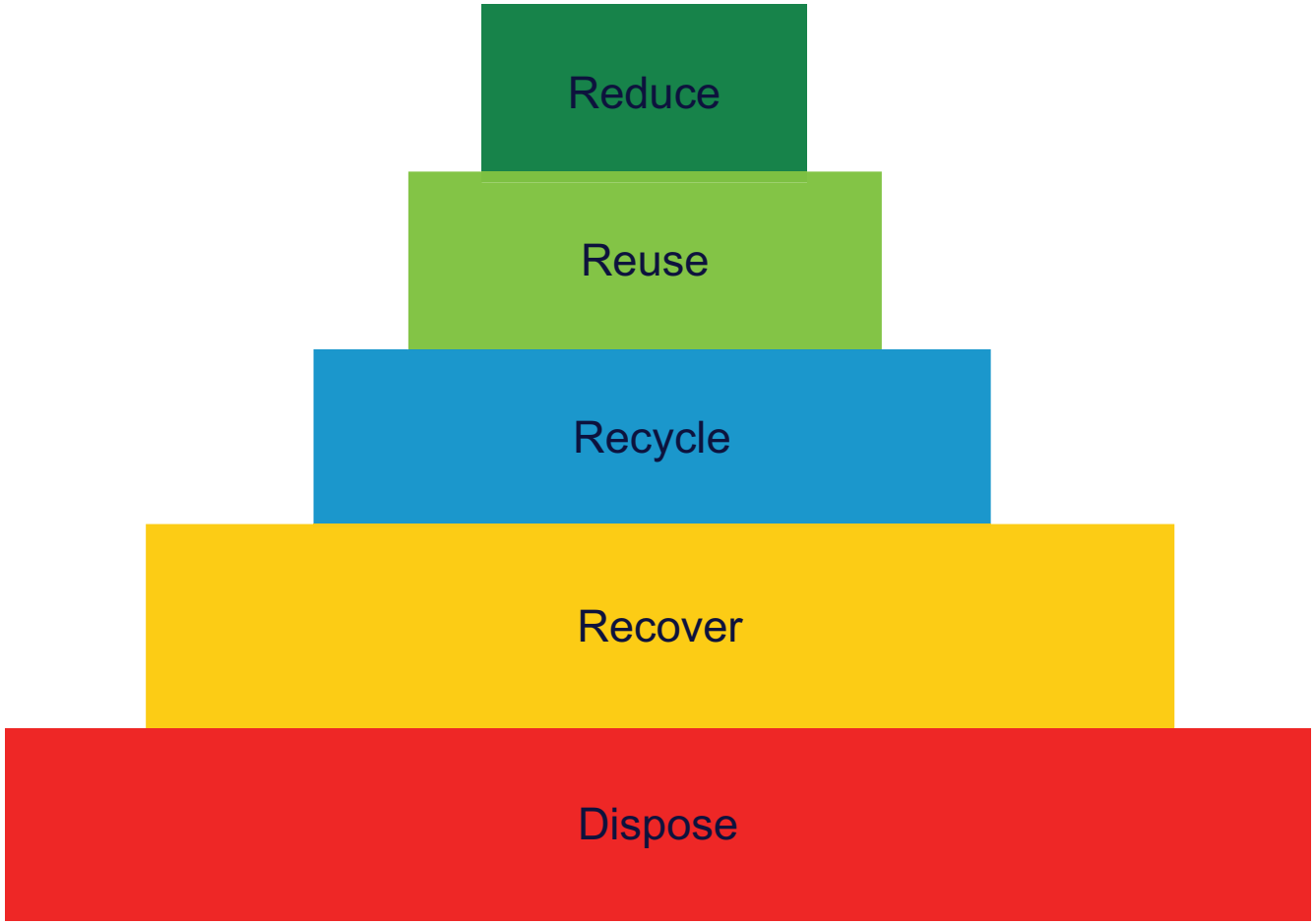
HEFE & waste

Additional questions – best practice

1. How can you implement the waste hierarchy?
2. Is waste managed at strategic level?
3. Are people aware?

1 . Waste hierarchy



2. Is waste managed strategically?

- **Waste policy -** setting out organisation-wide commitments?

- **EMS -** integrated within an existing system

- **Sustainability Strategy**

- **Procurement**

- **Procedures/work instructions/communications**

3. Are people aware?

- What level of awareness/knowledge/competence is required?
- How can you test that it is sufficient?
- How do you raise awareness?
- Target audience
- Creativity and messages
- Maintaining the momentum

3. Are people aware?

- Training needs analysis
- Consultation and engagement
- Creative communication
- Clear messages
- Procedures
- Sharing best practice
- Rewarding success

Tools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The Environmental Association for Universities and Colleges
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Background to Waste Management
Waste Management Review
A structured approach
Practical Waste Management
Tenders & Contracts
Home > EAUC Waste Management Guide
How to use the Waste Management Guide
The Guide to Waste Management provides practical information on how to identify and manage the waste produced in your institution. This is a complex subject to describe so the text includes cross-references throughout and includes information on relevant legislation, together with action advice on how to comply with any particular aspect of the law. You don't have to read the entire guide before you start, you can simply go the section you are interested in and follow the links.
If you find broken links please contact info@eauc.org.uk
Finding your way around the Guide:
Action Boxes
Where you will find ideas for actions, activities or directions on how to go about practical tasks
Information Boxes
for detailed information to help you with your practical actions
Tables
simplify or summarise facts you may need
are data collection forms for you to copy and use or adapt appropriately. This icon shows you an example of a

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Waste Aware Campus

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- Poster Creator
- Students
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- Case Studies
- About Us
- Waste Aware Sites

Sort It

Visit Sort It to find out how to Reduce, Reuse and Recycle household waste where you live.

Reduce, Reuse and Recycle on campus

The resources provided on this website aim to help staff and students at Scotland's colleges and universities introduce and promote effective waste prevention and recycling services.

Campus recycling directory

Find out about private and public sector organisations who can provide your campus with recycling facilities.

How to guides

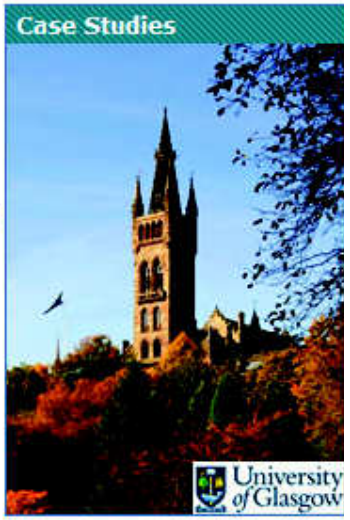
Find out how to plan effective promotions to publicise campus waste prevention and recycling facilities and get help with setting up recycling services.

Students

Find out about career opportunities in the sustainable waste management sector and learn more about getting involved with environmental campaigning.

Help

The Scottish Government is developing a new Zero Waste Plan for Scotland which outlines how we can all play our part in reducing the amount of waste we produce, reuse valuable resources and increase recycling levels to help Scotland become a Zero Waste Society.



Tools

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Sort It

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Campus Recycling Directory

You can use this directory to search for reuse and recycling services in your area. Simply select your local area, or enter the first half of your postcode, and choose the type(s) of material(s) you are looking to reuse or recycle. Local and national companies operating in your area will then be displayed in your search results. You can widen your search by selecting more than one local area.

For more information about using the directory view the Recycling directory how to guide.

(●) Collections ( ) Recycling Centres

( ) Search by postcode

(ie 'FK', 'FK10') **OR**

(●) Search by local area (s)

- [ ] Aberdeen City
- [ ] Aberdeenshire
- [ ] Angus
- [ ] Argyll and Bute
- [ ] Clackmannanshire
- [ ] Dumfries and Galloway
- [ ] Dundee
- [ ] East Ayrshire
- [ ] East Dunbartonshire
- [ ] East Lothian
- [ ] East Renfrewshire
- [ ] Edinburgh City
- [ ] Falkirk
- [ ] Fife

Show Materials Choose from those recycled in area(s)

Help Reset Form Search

Key actions!

Establish your waste baseline

Implement the waste hierarchy

Integrate waste into policy and procedure

Raise awareness

Session 4

Waste auditing

Waste audits

- Waste audits incorporate general features common to any audit:
  - They are pre-planned and methodical
  - They should be free from bias or prejudice
  - They encompass some form of inquiry and critical consideration of the resultant findings
  - They are concerned with all activities that affect waste issues (in particular legal compliance, waste streams and waste awareness).

Waste audits

Key considerations…

1. Define the scope of the audit
2. Audits objectives
3. Audit methodology

EXERCISE:

- In groups, spend 10 minutes discussing one of the three points

1. Audit Scope

- Sampling approach
- Geographical
- Timescale
- Issue focused e.g. paper waste, special waste, material use.

2. Audit Objectives

e.g.

- To assess compliance with relevant waste legislation
- To identify all waste streams generated by the library/students unions/X department
- To understand the disposal routes for each waste stream
- To identify examples of good and bad practice
- To establish what monitoring and measuring is in place
- To provide comment on the effectiveness of the building's waste management systems
- To provide recommendations for improvement

3. Audit methodology

Site walkover:

- mapping of waste bins together with an examination of their contents
- taking photographs and making observations
- interviewing key personnel including cleaners and porters
- Recording evidence.

Audit programme

- Internal audits require a structured plan
- Audit programme should consider:
  - Audit cycle
  - Frequency of activity based on:
    - Potential environmental impact
    - Problems identified from previous audits
    - Existing environmental management system
    - Legislation
    - Organisational changes.

Audit toolkit - checklists

Responsibility	**Yes/ No**	**Comments**
Does your institution have a waste policy?		
Does your institution have a nominated waste manager/officer?		
Is anyone respo nsible at department/section level? (contact details should also be included in template 3.2)		
Containers and storage for general waste	**Yes/ No**	**Comments**
Are appropriate containers used for the storage of waste?		
Who decides what storage containers a re appropriate?		
Are containers properly labelled?		
Is waste stored in a specially designated area?		
Are the storage areas secure with restricted access?		
Are all employees aware of relevant waste management procedures?		
Is a licence required for any storage areas?		
If YES, is the licence displayed?		
Are there appropriate procedures in the event of an incident?		

Segregation and handling of Special/Hazardous waste	**Yes/ No**	**Comments**
Are wastes properly segregated? (special/non -special)(hazardo us/non -hazardous)		
Are wastes properly labelled?		
Are waste handled in a safe manner (any hazards taken into account)?		
Are all appropriate employees made aware of procedures?		
Documentation	**Yes/ No**	**Comments**
Are adequate records kept of all wastes?		
Are adequate records kept of the licensed storage area?		
Are adequate records kept of the correct and safe disposal of wastes?		
Do you require documentation stating that the waste has been destroyed?		
If special/hazardous waste is produced is the site registered?		
Has the waste carriers registration documentation been checked? Who by?		

Audit findings

- The aim of an audit is to highlight where improvements can be made in a system
- Audit findings can take three main forms:

Non-conformities

Recommendations

Observations

Audit findings

Waste Stream	
Location Description	
Disposal method	
Frequency of	
Collection	
Applicable legislation	
Procedure in place?	
General Comments	
Recommendations	

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Audit reports

① Findings	Description of the issue
② Corrective actions	How the issue will be addressed
③ Responsibilities	Who is responsible for carrying out the actions
④ Timescales	When the actions must be completed by

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Priority issues

Issues	Recommendations
Batteries. The Batteries Directive was published in the Official Journal on 26 September 2006. The UK and all other Member States now have a deadline of 26 September 2008 to transpose the provisions into national law. Although this legislation is not yet official in the UK, it is important to be aware of and prepared for forthcoming legislation.	Instigate battery segregation and send batteries to be recycled. Create a procedure for battery recycling. Create a procedure to ensure that rechargeable batteries (and battery chargers) are procured instead of disposable batteries, wherever possible. (This saves energy because the energy needed to manufacture a battery is on average 50 times greater than the energy it gives out)
Consent to discharge / Trade effluent license – Certain departments use chemicals (mainly for experiments) and at present some of these chemicals are released to drain with extensive dilution. This liquid waste would be classed as a trade effluent, as the University is a commercial organisation.	The University should consider contacting Yorkshire Water to obtain a Trade effluent license.
Training and communication – Overall, the majority of University employees were unsure about several elements of the University's waste management (from waste storage to waste disposal routes, to responsibility and final destination of wastes), although there were some examples of knowledgeable and highly committed individuals.	Consider developing a training programme, for key personnel involved with waste to ensure they are aware of the University procedures and all legal requirements. The Chartered Institute of Wastes management Waste Awareness Certificate (delivered by ECUS) may be an appropriate course. Consider devising a simple awareness raising package for all employees to ensure everyone understands the key issues associated with waste including the waste hierarchy and requirements for waste segregation. This could involve short training sessions or alternative communication methods.

Key actions!

Carry out baseline assessment audits

Develop an ongoing audit schedule

Exercise 3

Virtual audit

Break

Session 5

Implementing a waste management action plan

5. Action Plan: process

①AUDIT a) Site walkover

②AUDIT b) documentation review

③Creating objectives & targets

④Developing action plan

Understanding the issues and the figures – establishing the baseline

Including corporate commitments and best practice

Step by step actions to achieve the targets

Assigning responsibilities

Objectives and targets

Setting objectives and targets is essential:

Objective: to reduce waste to landfill by 20% by 2012

Target 1: to calculate a baseline for waste volumes by Mar 2010

Target 2: to increase waste recycling by 10% by July 2010

Target 3: to deliver waste reduction awareness training to all Departmental Managers by Dec 2010.

Objectives and targets

Key points:

- No specified number of objectives and targets – flexible
- Each objective should have at least one related target
- SMART targets important
- Objectives and targets create a structure for the action plan – i.e. the actions created must enable the targets to be achieved.

Action planning benefits

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Framework for action

Provides big picture

Allows budgeting

Logical structured approach

Commitment to meet goals

To make waste reduction happen!

Ensure focus and prioritisation

Time focussed

Communication tool – upward reporting and downward management

Mechanism to track change and monitor progress

Action planning steps

- Identify the key objective/goal – what are you trying to do?
- Identify options for improvement
- Prioritise/assess options
- Identify resources required vs. resources available
- Consult, engage and communicate
- Create plan format.

Vision & strategy:	The vision and strategy - the overarching goal(s) to be achieved
Targets:	Long-term targets both quantitative and qualitative agreed as part of the vision and strategy
KPIs	Key performance indicators against which success will be measured
Actions:	Prioritised, costed actions which collectively deliver the agreed priority options and work towards the longer-term targets
Roles & responsibilities:	Who (council section / partner) is responsible for delivering what
Timescale:	Realistic time plan showing the sequencing of actions over a specified period
Programme Management:	How implementation will be: managed; risk management; review processes; reporting and communications and embedding the plan

Communication

- Essential to gain buy-in across the board!

In pairs you have 2 minutes to:

- **Identify one barrier to gaining buy-in and one solution**

- Environment Team Home
- Environment Team Overview
- Waste and Recycling
- Waste guide for departments
  - Waste - Standard Procedures
  - Shredding Request Form
  - White Goods Collection Request Form
  - Skip Request Form
- What Can I Recycle?
- Where Can I Recycle?
- Recycling Scheme Review
- Why Should We Recycle?
- Waste Data - the latest figures are in!
- Waste Legislation
- 'The Golden Trio': Winners!
- The Golden Bin Challenge: Reviewed!
- Energy
- Travel and Transport
- Sustainable Procurement
- Water
- Biodiversity

Waste Guide for Departments

Cardboard

Clinical Waste

Confidential waste

Feminine Hygeine

Furniture

General Waste

Hazardous Chemicals

IT Equipment

Lamp Disposal

Landfill

Metal

Paper

Plastic

Contact The Environment Team

The Environment Team
Room 17 Estates Department
Fielding Johnson Building
University of Leicester
LE1 7RH
environment@le.ac.uk
waste@le.ac.uk

Recycling A-Z

Useful Links for Staff

Waste Guide for Departme
Waste - Standard Procedu
Shredding Request Form

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EVERARDS

BREWED IN LEICESTERSHIRE

EST.1849

Golden Trio Award

This certificate is awarded to

Graham Chivers

in recognition of valuable contributions to the environment

Signature _____ Date _____

University of Leicester

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Waste and Recycling

Facts and Figures

- In 2007/08, the University produced about 4,000 tonnes of waste, of which about 72 per cent was recycled.
- The third annual waste audit in February 2009 showed that about 40 per cent of the general waste produced can be recycled.
- Most of the waste (about 100 million tonnes) produced in England and Wales ends up in landfill.

What are we doing?

The University has a duty of care to ensure its waste management operations do not harm human health and the environment.

- ***Sustainable waste management*** – we use licensed contractors to collect and dispose of our waste. You can find details about what to do with your waste by following the link to the Waste Management Guide. We've built waste bin compounds to improve our management of waste on the Highfield campus. We completed a third waste audit in February 2009 which showed that 40 per cent of the general waste could be recycled. A quarter was food waste.
- ***Reduce, Reuse, Recycle*** – we want to reduce the amount of waste we produce and encourage the reuse and recycling of materials. We've rolled out a mixed recycling scheme across all our campuses. This scheme will allow us to recycle more and so send less to landfill.
- ***Waste Electrical and Electronic Equipment (WEEE)*** – in 2007/08 we produced about 51 tonnes of WEEE. We have put in place a procedure to deal with this growing waste stream to ensure we meet various legislative requirements, while also looking for the best environmental option for the waste. Follow the link to the Waste Management Guide to find out how to dispose of your WEEE.

What can I do?

We can all do our bit to reduce the amount of waste we produce:

- ***Re-think*** – for example, do I need to buy this product?
- ***Reduce*** - for example, don't print everything off and if you have to, print double-sided on draft mode (saves ink).
- ***Replace*** – for example, buy more durable products that require less energy and contain less hazardous materials

Other Southampton sites:
Waste Management Guide
Web links:
Environment Agency Information on Waste*
*The University cannot accept responsibility for external web sites.
University news:
News feeds

Newcastle University

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Search

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Estate Support Service

- Services
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  - Capital Projects
  - Property Services
  - Travel to Work & Parking
  - Reporting Faults & Problems
  - Waste & Recycling
    - Frequently Asked Questions
    - New Recycling Scheme
    - Newsletter
    - What can I recycle?
  - Cleaning
  - Furniture
  - Mail Delivery & Collection
  - Improvement Works
  - Grounds Maintenance
  - Maintenance Works
  - Portering
  - Room Booking
  - Security

Waste and Recycling

The University is proactive in its commitment to reducing resource use and diverting waste from landfill in support of the University's Sustainability Strategy.

In this section:

- What can I recycle?
- New Recycling Scheme
- Office Declutter Guide

What's new?

- **'All other plastics'** recycling rolled out across campus
- **Time for a spring clean**

The University's Waste Manager is Daniel O'Connor. Daniel works within the Facilities Management Team and can offer advice on legal compliance, hazardous waste, registration and current waste initiatives.

If you have any queries on waste management please contact Daniel on 0191 222 3963.

Clean & Green

◂ UoR Home
◂ Clean & Green Home
About us
Ethical procurement and Fairtrade
Sustainable development
Carbon management
Recycling and waste management
What we have recycled
Clean and Green team and initiatives
Recycling facilities
Waste disposal
Green transport
Get involved
Our research

See also
▸ Select Environmental Services

What we have recycled

Since August 2007, 1,153 tonnes of waste collected from all University properties (excluding farms) of which we have successfully recycled 372 tonnes (32%):

- 162 tonnes of mixed recyclables
- 97 tonnes of card & paper
- 25 tonnes of IT equipment
- 24 tonnes of glass
- 18 tonnes of metal
- 17 tonnes of wood
- 15 tonnes of clothing
- 9 tonnes of confidential waste
- 3 tonnes of fridges/freezers

Thus reducing the amount (781 tonnes) sent to landfill. Using an advanced 'Pay by Weight' system and being the largest company in Berkshire to do so, the University carefully manages all of its waste streams. We aim to raise this figure to 50% by 2012.

What we recycle

Here is a summary of the recycling carried out by the University:

- Since October 2005, 37.043kgs of redundant IT equipment has been collected of which 91% has been reused and 9% has been recycled.
- Bottles Banks were installed at Central Catering/RUSU in February 2005 and at Halls with bars since March 2007.
- Fridges and freezers are stored and when the container is full they are taken to be de-gassed and re-processed.
- Confidential waste is shredded on site and then made into fuel pellets. Between August 2005 and February 2007, 21,193kgs of paper has avoided expensive landfill costs.
- Clothing Banks were installed at all Halls during the summer term and due to its success, there are plans to roll this out more extensively in the future.
- Three 40 cubic yard containers have recently been installed for the collection and recycling of

Key actions!

Develop an action plan to address priority issues

Set waste objectives and targets

Develop a suite of action plans for departments

Consult engage, communicate, motivate

Exercise 4

Action Planning

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Key actions!

1. Contextualise waste when raising awareness, gaining buy-in and instigating change
2. Ensure legal compliance
3. Create a waste legal register
4. Check compliance regularly
5. Stay abreast of changes
6. Establish your waste baseline
7. Implement the waste hierarch
8. Carry out baseline assessment audit
9. Develop an ongoing audit schedule
10. Develop an action plan to address priority issue
11. Set waste objectives and targets
12. Consult engage, communicate, motivate

Further help and support

- EAUC
- WRAP
- Envirowise
- Waste Aware Campus

ase studies

wrap — Material change for a better environment

› News › Publications › Funding
› Events › Jobs › Tenders
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You are here: Home / Business / Using recycled paper / Case studies /

University Case Studies

Bournemouth University

Attracting students through recycled paper

› Further details

The University of Edinburgh

Recycled paper in higher education

› Further details

University of Gloucestershire

Learning to benefit from recycled paper.

› Further details

Robert Gordon University

Using recycled paper to support organisational rebranding

› Further details

University of the West of England

University makes switch to recycled

› Further details

Summary

Course aims & objectives

- To provide an introduction to the impact of waste globally, nationally and in the HEFE sector
- To understand the key requirements of waste legislation in England & Wales
- To gain a comprehensive understanding of the practicalities of waste management
- To be able to carry out a waste audit
- To implement a waste action plan.

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Thank you!

www.ecusltd.co.uk

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