envirowise

Resource Efficiency in Shopping Centers

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Envirowise England

Overview

- What are the issues?
- Drivers
- Resource efficiency
- Resource efficiency in shopping centres

Which Decade…?

Which Decade…?

1970s

1980s

1990s

2000s

Business issues of our time...

1970s

1980s

2000s

1990s

Part 1: What are the Environmental Issues?

Issues

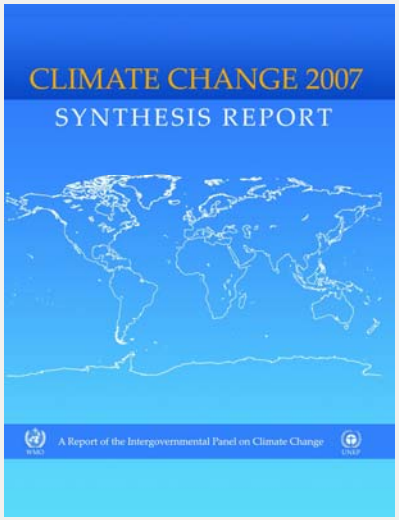
Climate Change

Material Prices

Ecological foot prints

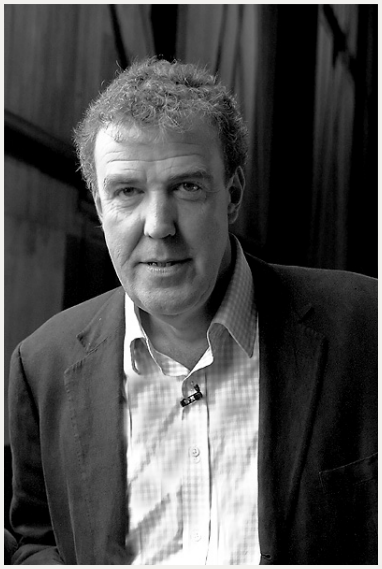
Who do you believe?

Scientists (IPPC) agree climate change ‘unequivocally happening, man made and has the potential for significant impact’

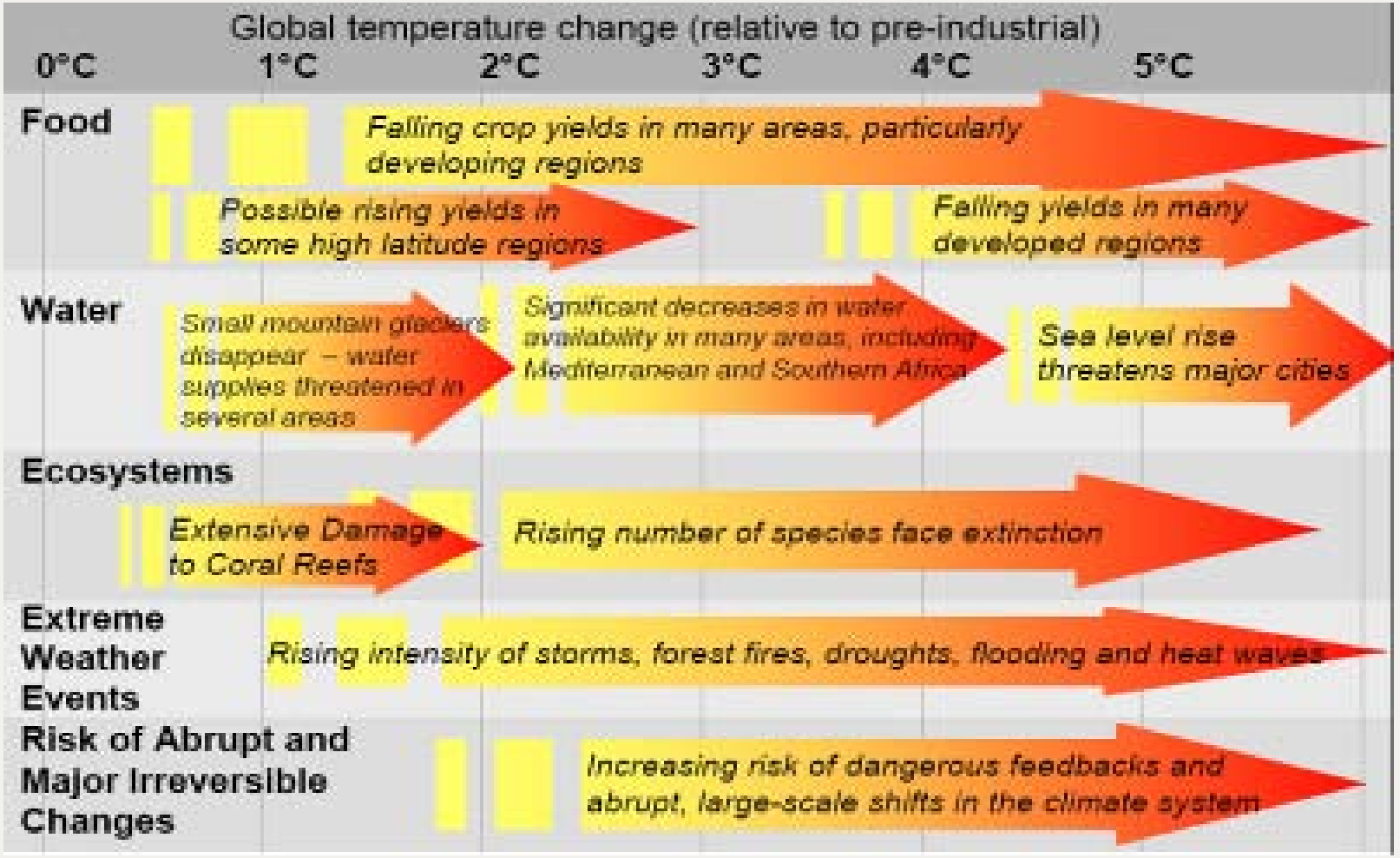


OR

"let's just stop and think for a moment what the consequences might be. Switzerland loses its skiing resorts? The beach in Miami is washed away? North Carolina gets knocked over by a hurricane? Anything bothering you yet?"



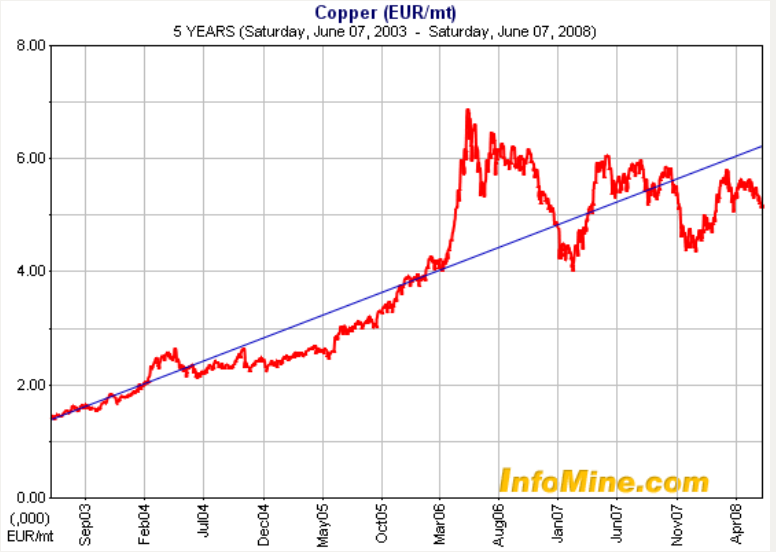
If you believe the scientific community



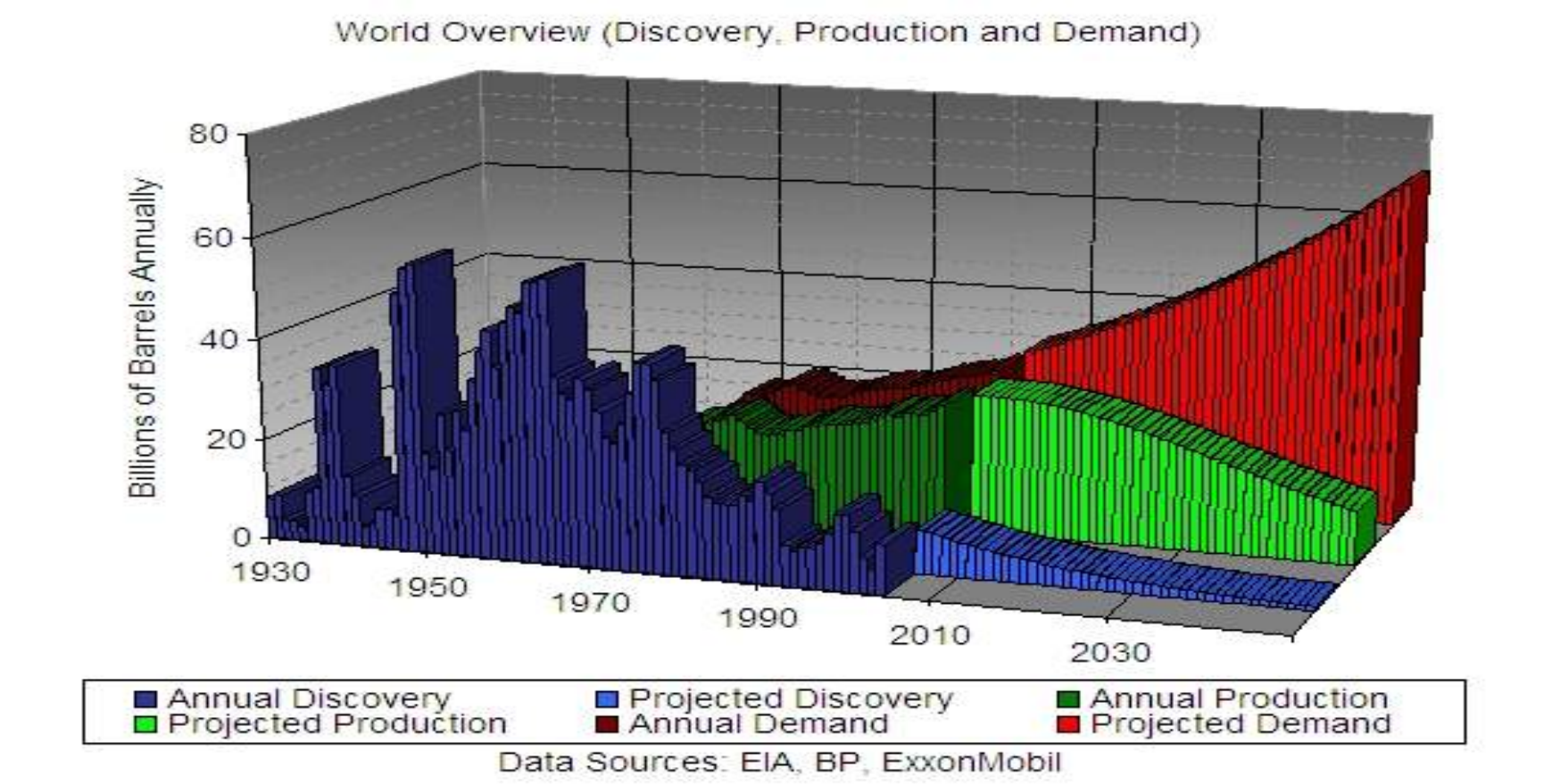
Materials

75% of world's gold already mined. Last 25% likely to have greater impact than first 75%.

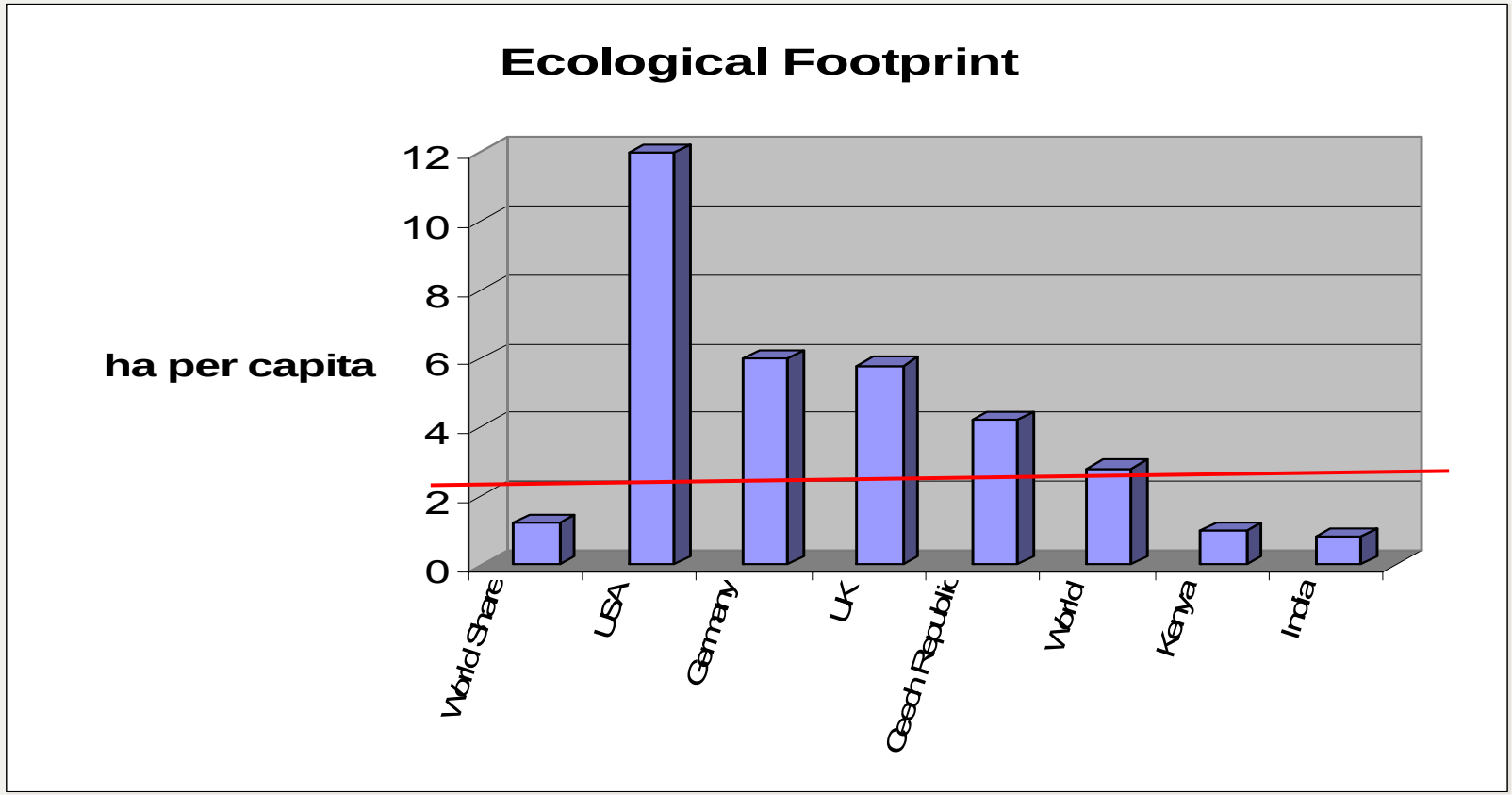
General price increase for most materials



Peak oil?


World Overview (Discovery, Production and Demand)
Billions of Barrels Annually
80
60
40
20
0
1930
1950
1970
1990
2010
2030
Annual Discovery
Projected Discovery
Annual Production
Projected Production
Annual Demand
Projected Demand
Data Sources: EIA, BP, ExxonMobil

Living beyond our means?



What we have

What we are using

What we would use if everyone lived like the British



Part 1: Drivers

Drivers

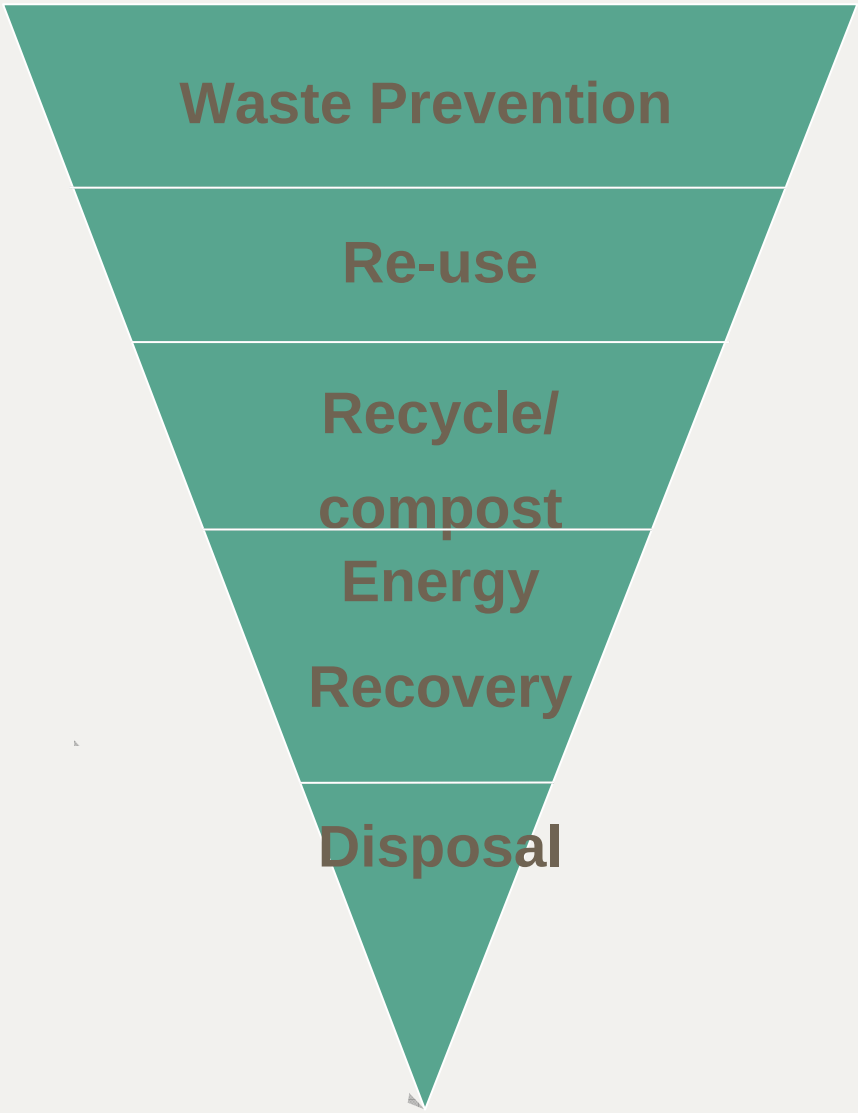
- Finite resources
- Costs
- Legislation/regulation
- Customer/employee pressure
- Investor pressure
- Reputation

Legal drivers

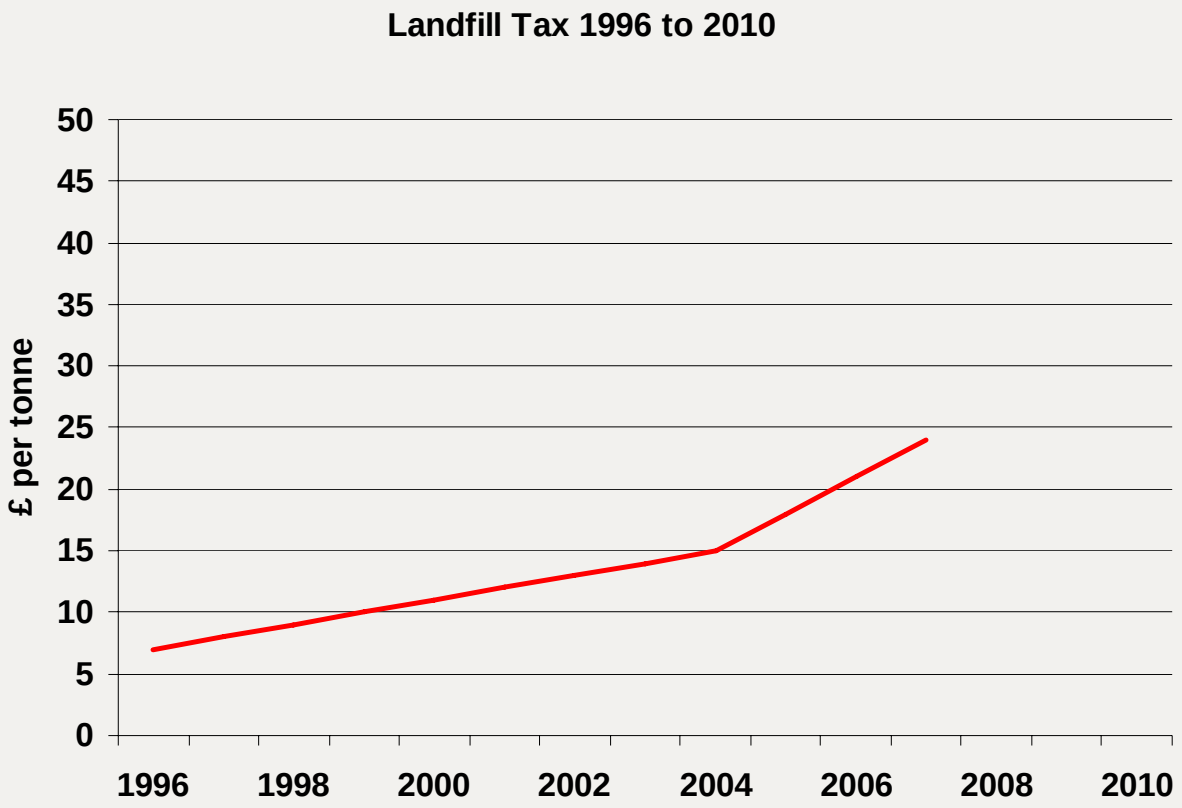
National waste strategy 2007
- Reduce landfill and GHGs

Managing impacts of disposal
- Duty of care and hazardous waste
- Registration and licensing
- Transportation
- Landfill restrictions (directive)
- Animal by products

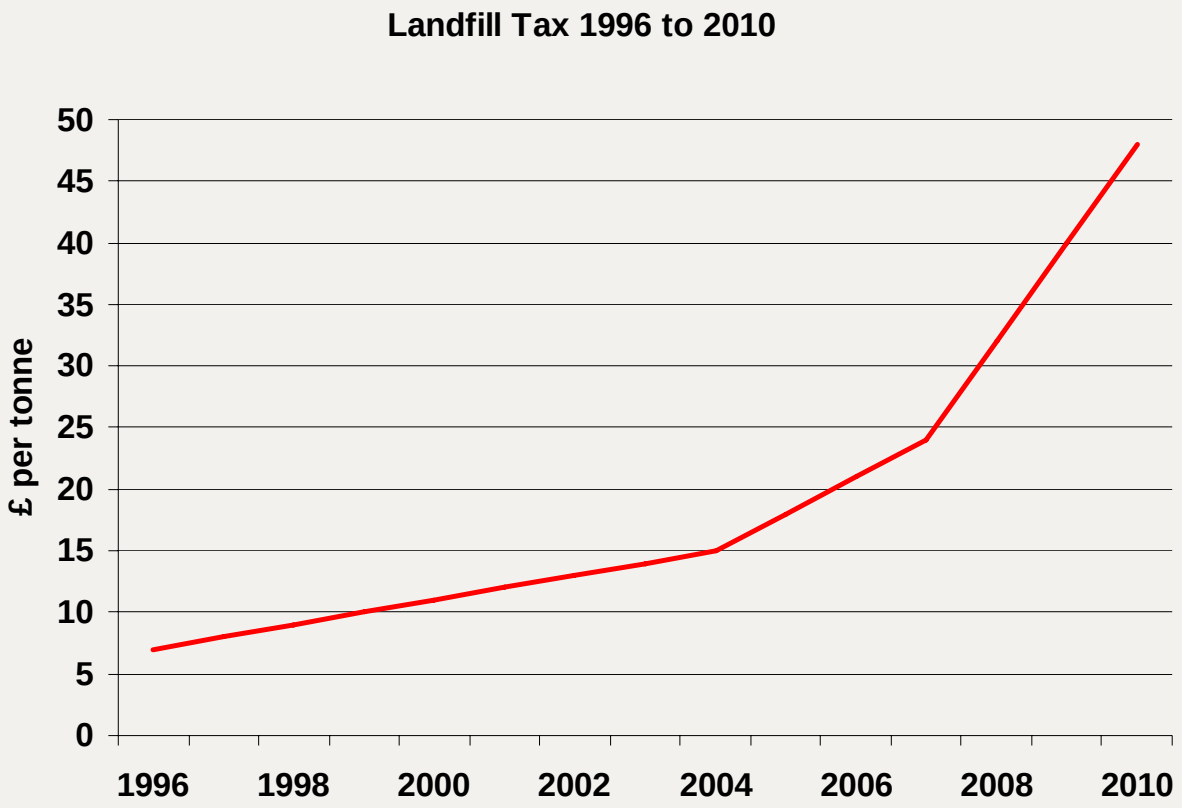
Reducing waste
- Producer responsibility
- WEEE, packaging, cars
- Taxation and trading
- Landfill directive
- Landfill tax



Landfill tax



Landfill tax

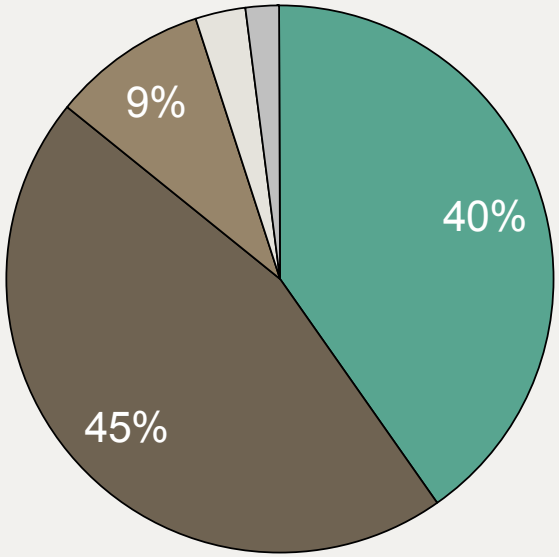


Customer pressure

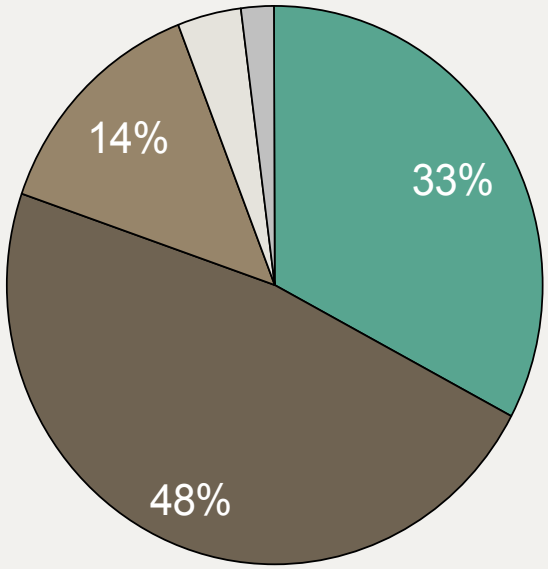
Q When forming a decision about buying a product or service from a particular company or organisation, how important is it that it shows a high degree of social/environmental responsibility?

Very important
Fairly important
Not very important
Not at all important
Don't know/ no opinion

Social responsibility



Environmental responsibility



Base: 1,040 / 1,041 GB adults 16+, 9th August – 14th September 2007

Retailers are taking steps to manage resources efficiency

MARKS & SPENCER

M&S will change beyond recognition the way it operates over the next five years. We will become carbon neutral, only using offsetting as a last resort

We will …. label our products so that customers can compare their carbon footprint easily

Sustainability 360

Using Wal Mart's buying power to create new low energy markets.

WAL★MART

Impact of the Credit Crunch

Will the credit crunch mean the environment is sidelined?

Very different to the economic downturn in the early 1990s

Market for ‘green’ products much more embedded

Consumer awareness & expectations are still high

Environmental legislation (and more in the pipeline)

Resources are very costly

- Early 90s oil $10 a barrel
- 2008 oil $100-$140 a barrel
- Predicated trend remains upwards

So the responses to ‘why bother’ remain valid if not more so

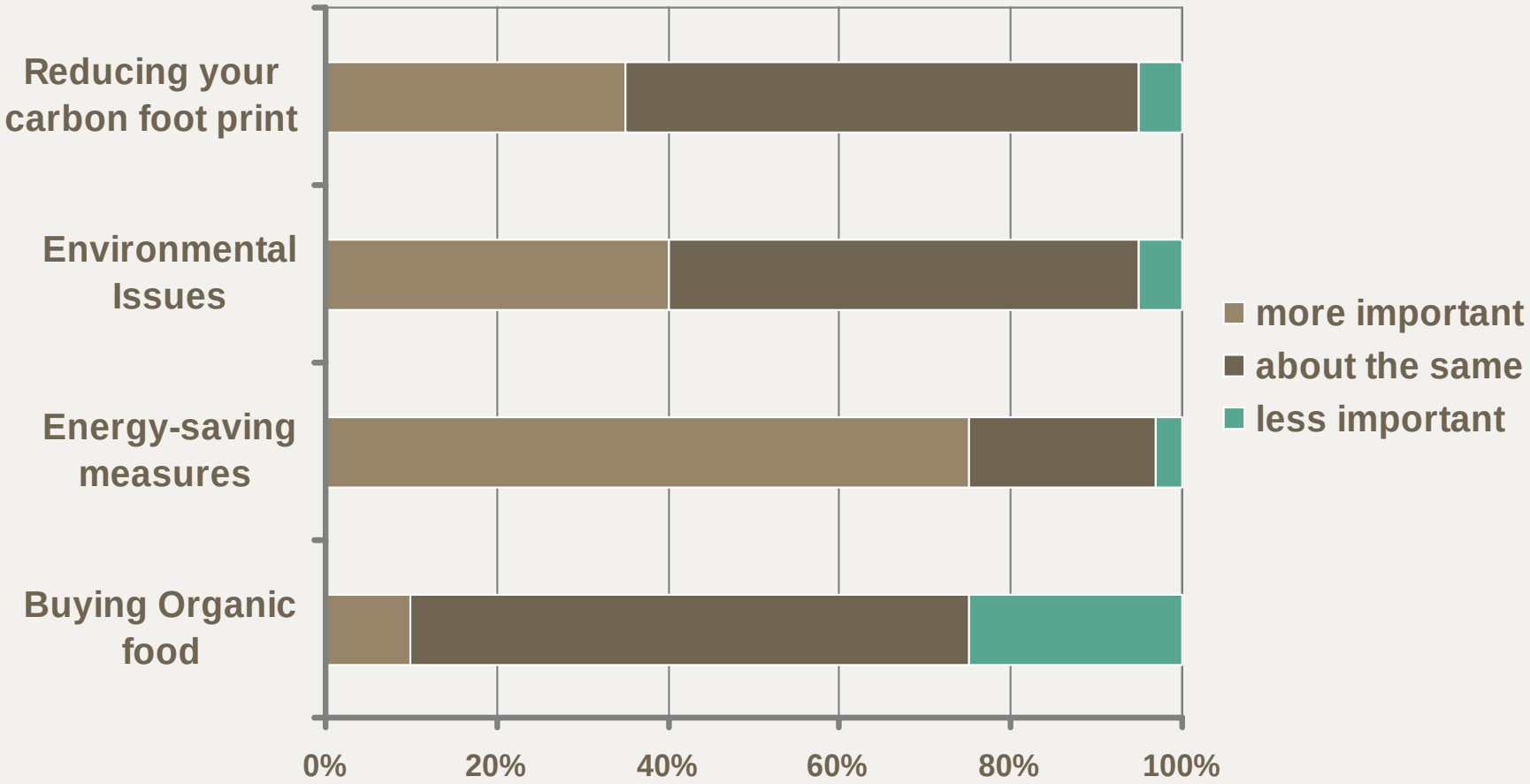
Government approach

"In tough economic times, some people ask whether we should retreat from our climate-change objectives. In our view it would be quite wrong to row back and those who say we should misunderstand the relationship between the economic and environmental tasks we face.“

Ed Miliband, Climate Change and Energy Secretary

16th October 2008

Consumer opinion



N=1005. Source - Empathy Research Jan 2008

Part 1: What is resource efficiency?

What is resource efficiency?

Resource efficiency can be defined as: -

The use of raw materials or inputs (utilities, raw materials, equipment, staff time etc) as efficiently as possible in the production of a product or delivery of a service.

I.e.

Minimising inputs while maintaining or increasing the quality of an output (product or service).

What’s the process

Measuring and understanding inputs

Monitoring progress over time

Understand where biggest savings can be made

Make informed decisions – set realistic targets and objectives

Future proofing - ability to adapt to changes in environmental perspective

Reduce reliance of finite and renewable resources

Resource efficiency – an example

Who owns a mobile phone?

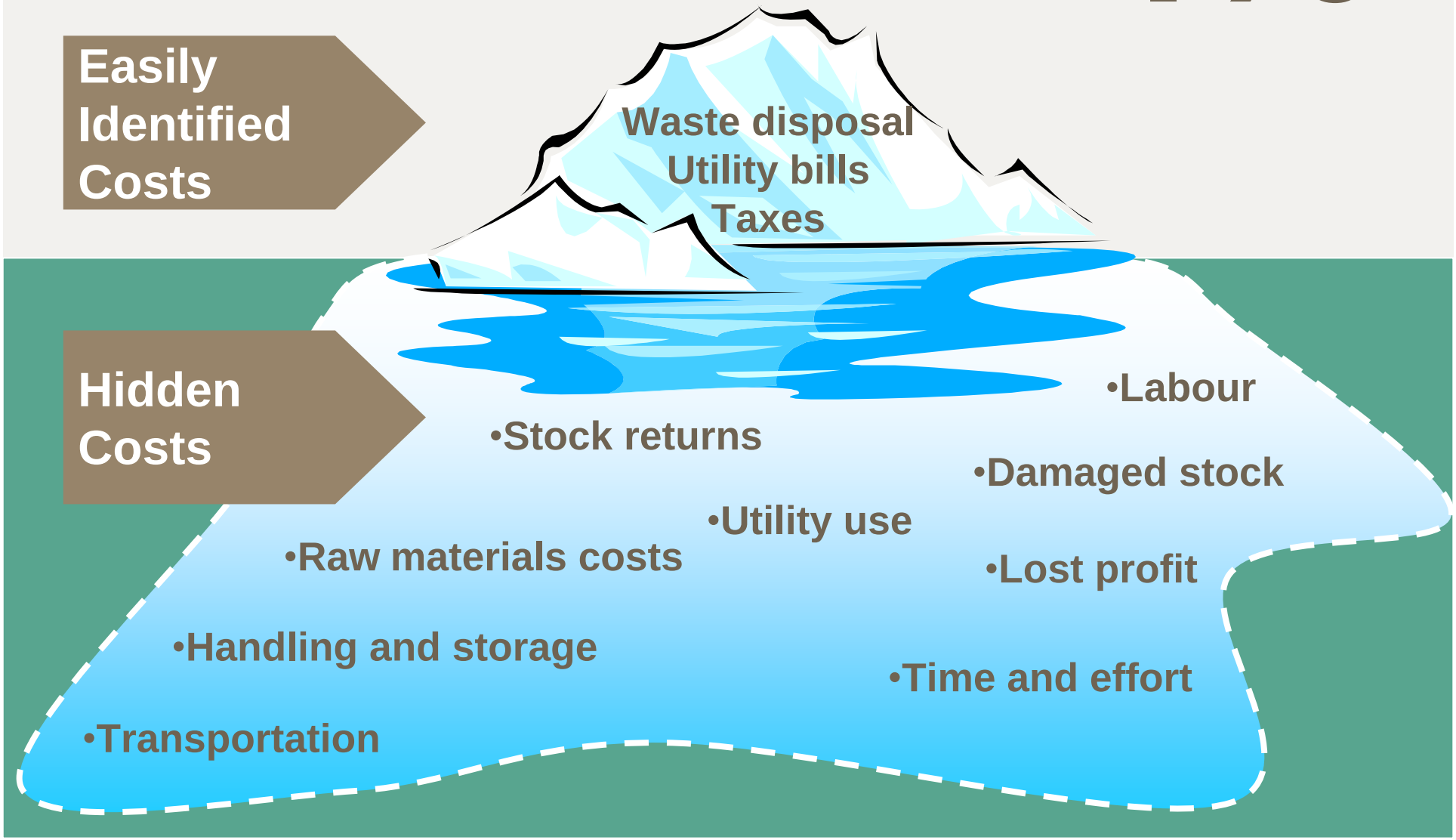
Who bought
- in a shop?
- on line/upgrade?

Who saw the box before they bought?

Who was influenced by the box?

Operational costs

4%



Barriers to resource efficiency

Information:	Lack of information and training
Engagement:	Human and financial resources Top management commitment
Physical restrictions:	Lack of space Lack of recycling services
Recruitment:	Lack of time Lack of commitment, initiative overload, apathy?
Data collection:	Staff availability Time consuming Lack of monitoring systems

Part 1: What is Envirowise?

Envirowise – who are we?

- Government programme, funded by DEFRA
  - FREE, independent and practical advice to business

- Aim - to reduce UK industry's impact on the environment whilst saving money through the efficient use of resources including waste minimisation and cleaner design.

- To date reported actual savings > £1.4 billion since 1994

Part 2: Resource efficiency in shopping centres

What are the main issues for shopping centres?

- Energy

- Waste

- Water

Waste

- UK produces 428 million tonnes or waste

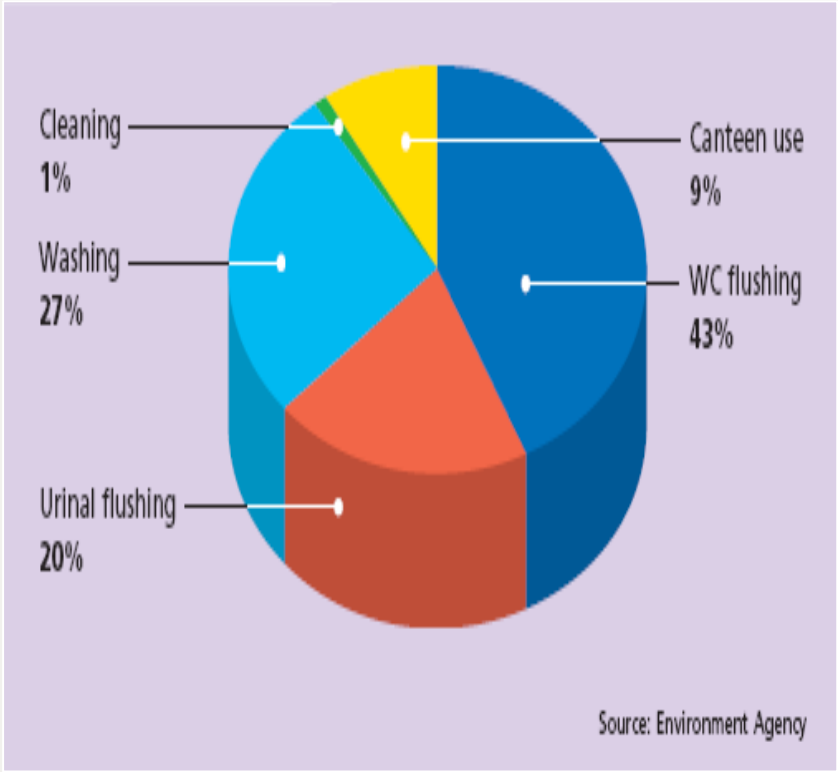
- Over 100 million tonnes of waste per year from households and businesses

- Waste typically costs companies 4% of their turnover – can be as high as 10% due to hidden costs

UK businesses buy enough wooden pallets in one year to reach the height of <u>over 29,000</u> Canary Wharf Towers

Water

- We use 70% more water than we did in the 1960s.
- It has been estimated that 310 million litres of water are wasted every working day in the UK.
- Office workers use as much as 35 litres of water a day – with 86% being a direct result of flushing toilets.

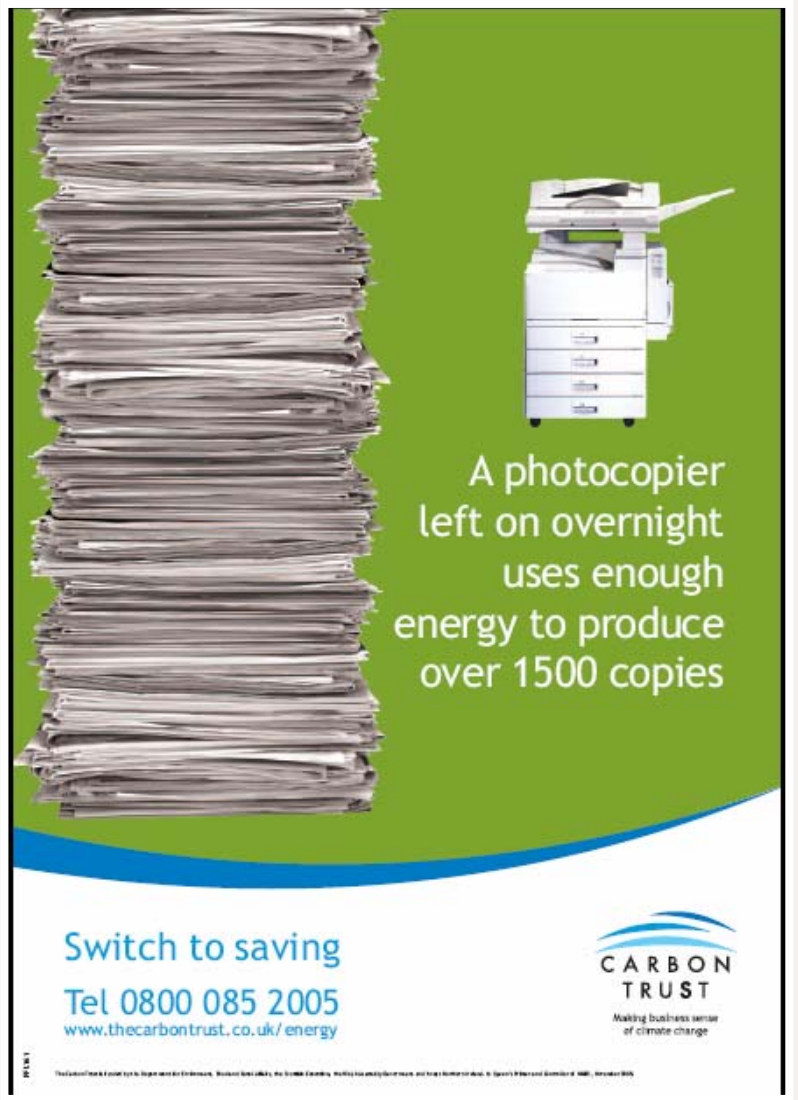


Energy

- A typical PC left on for 24 hours a day will use energy worth at least £60/year.

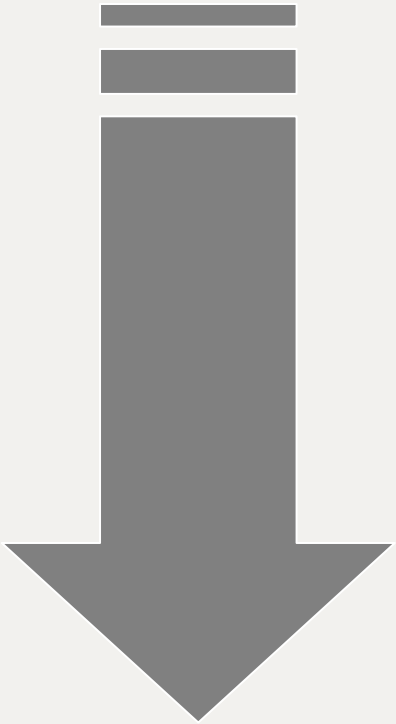
- Simple good practice measures you could reduce your energy costs by up to 20%

- Refrigeration can account for up to 70% of the energy bills in food stores



Part 3: Applying resource efficiency to you centre

Overview



Stage 1: Planning

Stage 2: Resource efficiency reviews

Stage 3: Implementation

Stage 4: Assessment

Envirowise Tool Kit based on work with Over 10 centres

Stage 1 – Planning

- Develop a action plan

- Decide on time scales for the project
  e.g. over 6 months

- Decide on your key objectives:

  For example:
  - *To attain 70% recycling target*
  - *Improve energy and water use*
  - *Greater understanding of tenant requirements*

Waste Hierarchy

Highest potential savings

Lower savings / costs

Stage 2 – Resource Efficiency Reviews

- Undertake an audit of the centre - review existing practices
- Centre vs. tenants resource use
- Consult tenants/contactors - what are the barriers in their view?
- Who holds the data
  - Head office
  - Tenants

- Establish existing practices through audit
- Barriers and potential opportunities

Stage 3 – Implementation

- Action Plan
  - Assess potential costs savings
  - Investigate costs and payback
  - Allocate resources and budget

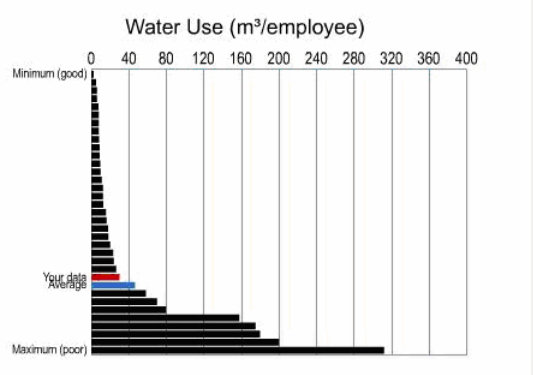
- Priority areas (including legal compliance)
- Big savings or simple tasks?
- Quick wins – build up to more difficult problems

- Liase with key personnel *e.g. staff, tenants and contractors*

Stage 3 – Implementation - Measuring performance

If you don't measure – you can't manage.

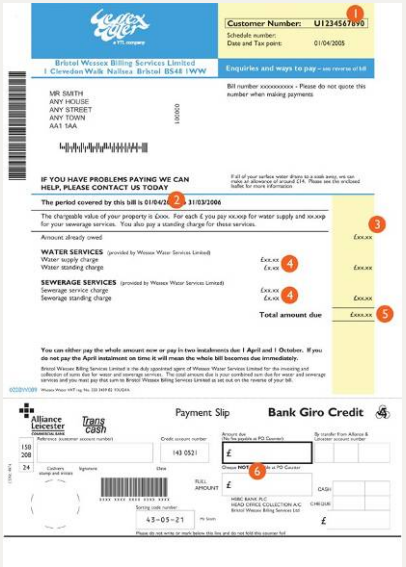
- Monitor consumption
- Waste Production and Costs (kg/pp/yr)
- Recycling Rate (% of waste recycled)
- Water Use (m3/pp/yr, m3 per unit produced)
- Energy Costs and Emissions (kWh/m2)
- Need to standardise KPI's



How are you going to manage it?

Do you check your bills? Who is responsible?

Does your contractor provide sufficient info?



Stage 3 – Implementation – Tenants

- How do you communicate to tenants?
- Are responsibilities clearly defined?
- Regular meetings / share best practice
- Specifications for refurbishments? Fit out guides?

- Possibility of award schemes?
- Communicating Financial savings
- Identify savings and opportunities in store

Stage 4 – Campaign Assessment

- Review initial action plan
- Key initiatives implemented
- Any reductions, improvements in resource use?
- Any savings, financial and environmental benefits?
- Data collection systems and management
- Reporting success

Part 4
Practical tips and tools

Eliminate waste

- Can the waste be avoided? Avoid producing it
- Buy Right Amount and type
- Self-stacking plastic crates (tote) can be used many times

Re-use

- Can someone else use it?
- Return packaging boxes for re-use

Recycle

- Are recycling facilities available?
- Recycling can be more cost effective
- Segregate waste
- Label bins
- Flatten waste packaging
- Use of bailers/compactors
- Composting?

Segregation is not difficult if undertaken at the point of generation - once in the skip it is too late!

Water

- Monitor for leaks
- Dripping taps
- Sub metering
- Passive infra red sensors
- Urinals
- Dual flush
- Aerating taps
- Grey water recycling

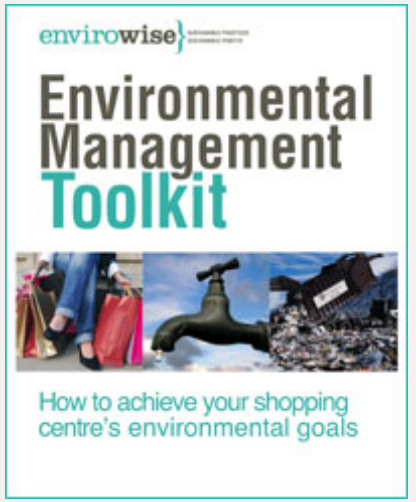
Energy

- Keep the temperature right
- Controls and BMS
- Install timers, PIRs, motion detectors
- Use natural light where possible
- Turn off equipment and lights
- Operating hours
- Vacant units?
- Review energy contract – green procurement?

Further Information

Envirowise services

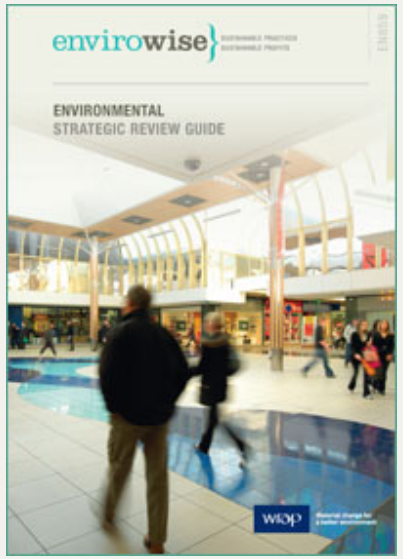
- *Visits, best practice guides, workshops*
- Website: www.envirowise.gov.uk/retail
- Freephone: 0800 585794



Guides

EN711R – Environmental Management Toolkit for Managed Shopping centres

EN859 - Environmental Strategic Review Guide



Due soon – Shopping centre recycling guide