

### Packaging – What’s all the fuss?.



Mark Shayler



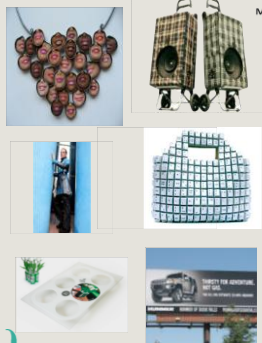
### What is eco design?



Just great design?  
Design that includes environment in the brief?  
Tinkering to reduce impact a little?  
A fundamental rethink of product and service?  
Tokenism?



### eco-designed products?



### Why look at design?



80% of a product’s impact and cost is set at the design stage



### Design is cost efficient



### For every £100 spent on fixing a problem in production





It would only have cost  
£10 to solve in  
development



and only £1 to solve in  
design



Design can change behaviour



Speeding

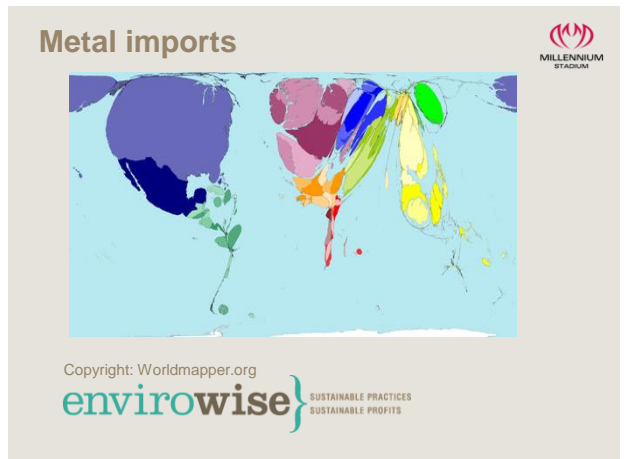
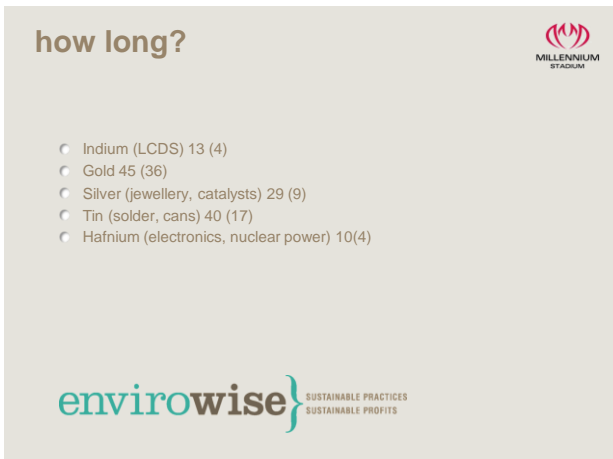
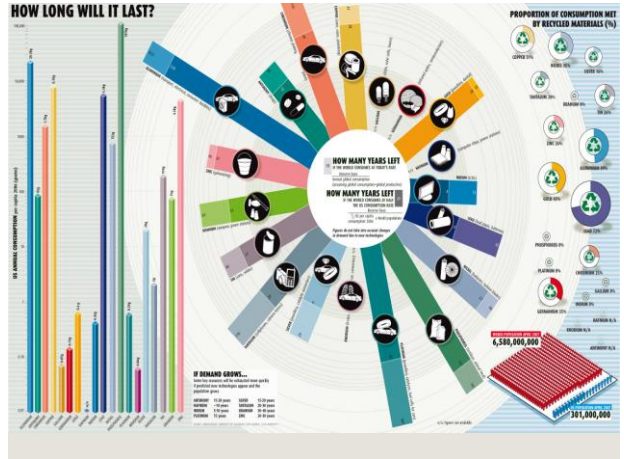
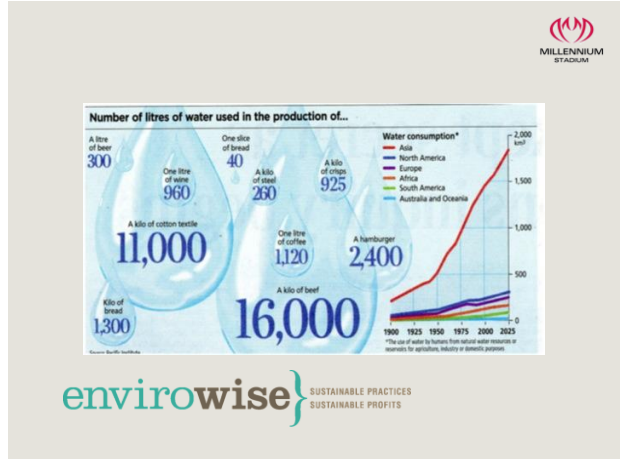
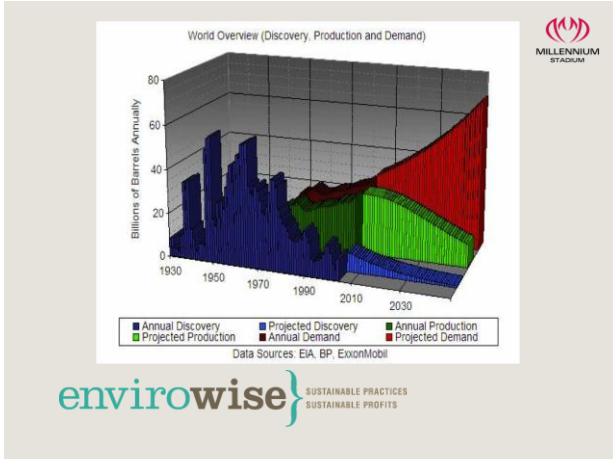



But you don't want to see this  
one..



Drivers






  
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**Projected Impacts of Climate Change**

Global temperature change (relative to pre-industrial)

	0°C	1°C	2°C	3°C	4°C	5°C
<b>Food</b>			Falling crop yields in many areas, particularly developing regions			Falling yields in many developed regions
		Possible rising yields in some high latitude regions				
<b>Water</b>			Small mountain glaciers disappear - water supplies threatened in several areas	Significant decreases in water availability in many areas, including Mediterranean and Southern Africa		Sea level rise threatens major cities
<b>Ecosystems</b>			Extensive Damage to Coral Reefs	Rising number of species face extinction		
<b>Extreme Weather Events</b>						Rising intensity of storms, forest fires, droughts, flooding and heat waves
<b>Risk of Abrupt and Major Irreversible Changes</b>						Increasing risk of dangerous feedbacks and abrupt, large-scale shifts in the climate system

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### Food imports

62% net importers  
Japan greatest importer - 16 times more per head than china




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## The importance of understanding your impact

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**The most visible elements of your environmental footprint maybe the least important. The stuff you can't see will dwarf the stuff you can see.**

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### For example



Typical office, some assembly warehouse and distribution

## 3000 tonnes CO<sub>2</sub>e

per year

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Impact of one year's sales of showers in use

## 667,000 tonnes co<sub>2</sub>e

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Maintaining an avatar on Second Life (average) costs **1,752 KWh (489 Kg CO2)** per year.

This is the same energy as an average Brazilian citizen uses each year.




### eco-design: the solution?

- Looks at the whole life-cycle
- Allows you to compare different strategies
- Considers
  - Materials
  - Production
  - Transport
  - Disposal
- It can be simple.....







### think about your favourite thing

one simple rule ..... nothing with a heart beat.

what is it?  
 why do you love it?  
 would you cry if you lost it?  
 would you replace it with the same thing?





mine is a clutch pencil

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or my folding bike

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why?

- mechanical
- sturdy and solid
- easy to repair
- beyond obsolescence



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that's what i value

it will be different for you



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sometimes we value the end result, not the product





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=




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\* not really friends

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\* but also possibly

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do you think about design when you make stuff?

really?

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do you think about the user?

- what do they value?
- where will they use your product?
- how will they use it?
- will they love it?
- what does it say about you?
- what does it say about them?

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are any of the design attributes you admire built into you product or service or things you do?

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why not?

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this man did



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### he wrote 10 principles of good design



Good design is innovative  
 Good design makes a product useful  
 Good design is aesthetic  
 Good design makes a product understandable  
 Good design is unobtrusive

Good design is honest  
 Good design is long lasting  
 Good design is thorough, down to the last detail  
 Good design is eco-friendly  
 Good design is as little design as possible



### he also inspired others



the ipod?



the imac?

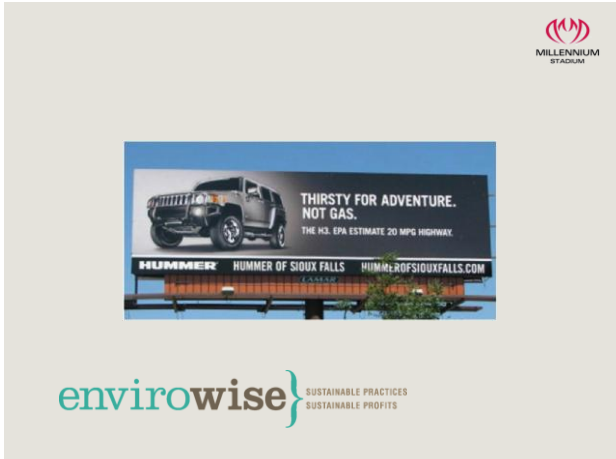


iPhone calculator?



less but better








it just works





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Eco-packaging: Tools and techniques

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### Packaging is still a concern

The Telegraph

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### SHOPPING BASKET FULL OF UNNECESSARY PLASTIC AND CLINGFILM

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### Worldwide action on plastic bags

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The Observer

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### Packaging waste production per capita Kilograms per year

Source: European Environmental Agency, Generation and recycling of packaging waste, May 2005 Assessment

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Average weekly family shopping basket in the UK

Average weekly family shopping basket in China

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eco-design: tools and techniques



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Sustainable packaging solutions?

- Reduction - light weighting
- Recyclability
- Recycled content
- Renewable resources / biodegradable
- Low Carbon



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Packaging Weight Reduction




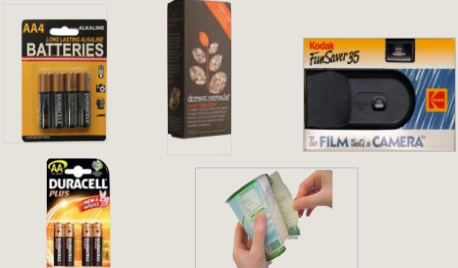

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Size reduction




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Recyclability

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Recycled Content




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### Degradability

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### Source: The Independent

'Sustainable' bio-plastic can damage the environment

Carb-based material emits climate change gas in landfill and adds to food crisis

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### Low Carbon

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### Materials - CO2 per Kg

- Aluminium – 12 kg
- Cardboard – 1.4 kg
- PP – 2.8 kg
- PE – 2.1 kg
- PET – 2.3 kg
- Laminates – 3.7 kg
- Glass – 0.9 kg
- PLA – 2.4 kg

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### It's not simple...

- Your market will affect your strategy.
- There is no single strategy to address all issues.
- New technologies are constantly emerging.

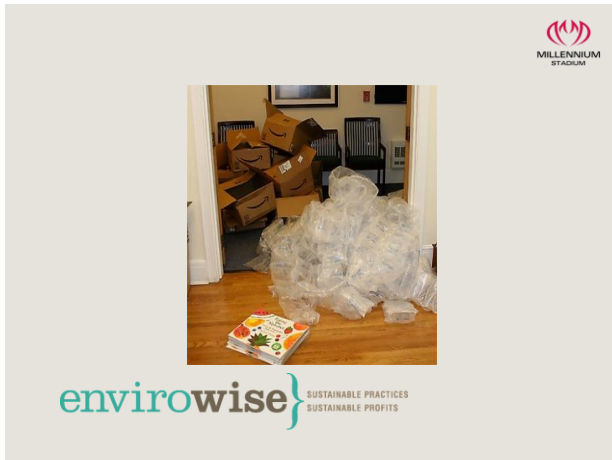
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### We still see the potty..

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### Your turn - workshop

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- Look at the items in front of you
- What materials have been used to pack them?
- Are the materials labelled?
- Can they be recycled?
- Are they over-packaged?
- How would you improve the packaging?
- What is the greatest impact of the packaging?
- Feed back your discussions

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**Thank you  
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