

Sustainable Design

6 R's

Six words beginning with the letter R.

Each describes an action that can be taken to reduce the environmental impact of products.

- Recycle
- Reduce
- Reuse
- Rethink
- Refuse
- Repair

It's important that designers do their part in taking these things in to account when designing new products.

Recycle

Products are converted back to their basic materials and remade into new products.

Examples include:

- Glass crushed, melted and made into new bottles.
- Aluminium cans melted down to make new products
- Plastic bottles recycled into drainage pipes and clothing. (It takes 25 two-litre plastic bottles to make one fleece.)



Designers and manufacturers of products need to design products for recycling. Car manufacturers are obliged to label all plastic parts in new cars to aid recycling of all those parts. Electrical and electronic products now have to include recycling instructions for the consumer. Many local councils now collect materials that can be recycled separately from normal domestic waste.

Reduce



Consumers need to look to reduce the number of products they buy, or consider buying products that use less energy.

Manufacturers are looking to design products that:

- have less materials in the product
- take less energy to manufacture
- need less packaging during transport.

Retailers can reduce carbon emissions by transporting products straight to the consumer from the place of manufacture, instead of via warehouses and shops

Reuse

Lots of items can be reused in the same form.

Glass milk bottles are a classic product that is reused. A more recent product that can be reused is a printer cartridge, which can be refilled.

Some products have filters that can be washed rather than using disposable, single-use filters.

Consumers could sell or donate products they no longer use themselves, so that someone else can use them.



Rethink



Consumers can ask the question, “Do I really need this product?” (Do you really need to replace your mobile phone every year?)

Designers and manufacturers can make products that do the same job more efficiently. They can design the packaging so that it is easier to recycle (for example, by making the packaging from a single material).

Refuse

The consumer has the choice as to whether they buy /use a product or not.

They can ask the following questions:

- Should they refuse the product because it is too inefficient (in use, or in its use of materials)?
- Should they refuse the product because its packaging creates too much waste? (Disposable cups from the coffee shop, plastic carrier bags from the supermarket, plastic water bottles.)

The designer and manufacturer have an increasing need to think about how the consumer will react to their products; will they refuse them?

Disposable



Refillable



Repair



Instead of throwing things away consumers need to think more about having things repaired.

Designers have a responsibility to design products that can be repaired more easily.

It takes fewer resources to replace a part of a product, than to replace the whole item.

Could an item be upgraded instead of replace with a new one?

Carrier Bags

Around 65 million carrier bags are thrown away in the county every year, with many ending up in landfill sites where they take many years to degrade.

What are supermarket's doing to help **reduce** the number of carrier bags their customers use?

Tesco's are asking their customers to **refuse** the standard carrier bag and instead **rethink** about how they carry their shopping. Instead they offer bags for life. The customer can buy a thick carrier bag which can be **reused**. If the bag breaks they can exchange for a new one, the old one will then be **recycled**.

They also offer a strong fabric bag - The Natural Green bag. This bag can also be reused but it can also be **repaired** should it need to be. Customers are also encouraged to **recycle** any unwanted carrier bags.

Tesco - Bags for Life



They encourage customers to **refuse** standard bags & **rethink** about how they carry their shopping in order to **reduce** the number of bags used.



Bag For Life
- can be **reused**, if it breaks it can be exchanged for a new one and the old one will be **recycled**.

The Natural Green Bag – A strong fabric bag which can be **reused** and **repaired** if needed.



Tesco's offer recycling of their standard carrier bags in all their stores.



Planned Obsolescence



Don't you hate it when something breaks just after the warranty runs out? What about that new electronic gadget that fails to work with your old accessories from the same manufacturer?

Some of these infuriating problems were caused on purpose, by product designers practicing "planned obsolescence."

Planned obsolescence occurs when something is intended to wear out or stop being useful after a predetermined period of time - and that time is often as short as a few years.

Planned Obsolescence

There can be many reasons why something becomes no longer useful, including technological irrelevance or changing social tastes. And some degree of planned obsolescence is probably necessary in many fields, through so-called "value engineering" (eg, a car would not be affordable if every part had to be made strong enough to last 100 years).

There are also ways manufacturers exploit planned obsolescence to make consumers buy more product, such as by purposefully making it difficult, or too costly, to make repairs, or by preventing backwards compatibility.

