M&S TECHNICAL BRIEFING SHEET ON PACKAGING

About Julia Hailes

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INTRODUCTION

Initially the issues around packaging look rather simple. There's too much of it and not enough is recycled. But actually, working out the best solutions is very complicated and in many cases counter intuitive.

For a start the huge public concern about the environmental impact of packaging – food packaging in particular – doesn't really stack up. For example, on average only 2% of the carbon impact of food in the supply chain is directly related to packaging. And packaging represents only 1.6% of what goes into a landfill site and 18% of household waste.

That doesn't mean we shouldn't be doing anything about it. What it does mean is that packaging is just the tip of the iceberg. So we should not only be looking at how to reduce its impact but also looking at packaging in the context of other incredibly wasteful practices of our disposable society.

This briefing paper has been commissioned by M&S with the intention of identifying some of thorny issues around packaging and recycling. And then identifying how we might address the problems and create a more sustainable vision for the future.

PACKAGING CHALLENGES

Currently, the top two priorities for packaging are to minimise waste and to maximise recycling. The problem is that quite often these objectives are in conflict. Using less material can make the packaging less recyclable and using recycled materials can make the packaging heavier.

Equally, the fact that targets for waste reduction and recycling are based on weight can lead to some pretty strange practices that don't necessarily make sense from an environmental perspective.

M&S CARDBOARD

If all M&S cardboard was made with recycled content they would use 2,500 tonnes more material because it's 10% heavier.

One example of this is the fact that cardboard for recycling is often collected from open skips. Presumably, if it rains the cardboard is heavier, which means that, in weight terms more of it is recycled. Clearly there's no environmental benefit in that.

I think it would make far more sense to assess the merits of different packaging solutions based on their carbon footprint throughout the life cycle of the product.

This approach may be more complicated but it would make it possible to take account of how much packaging is used in transit, how much food – and therefore carbon – is wasted and even what consumers do with products when they've bought it.

LOOSE APPLES

M&S commissioned research to compare the energy and waste impacts of loose apples compared to 4-packs using both biodegradable and non-biodegradable packaging.

Surprisingly loose apples resulted in more than double the amount of packaging waste than the other two systems – and more energy than the non-biodegradable 4 packs.

The study focused on the weight of packaging materials. Loose apples came out worst because more packaging was needed to protect the apples on the way to the store and more apples were thrown away. That's not only wasteful but bad for climate change.

Did you know that in the UK we throw away 4 million apples every day?

On average waste food has at least 15 times greater environmental impact than its packaging – and one third of the food we buy ends up in the bin

PACKAGING ISSUES

Dealing with waste

One of the biggest gripes about dealing with waste is that local authorities operate different systems. So recycling cardboard in Cardiff is unlikely to be the same as what happens in Carlisle. And, where you should throw your plastic bottles in Pontypool, will be different to if you live in Plymouth.

There is apparently some logic to not having a uniform recycling scheme across the country. The mechanics of collecting from a dispersed rural area, for example, will be very different from a densely populated inner city. But, in my view it's difficult to justify the literally hundreds of approaches to recycling that are currently operating.

This has happened because the government has set recycling targets on the amount – measured by weight – of materials, rather than specifying what needs to be collected and what's done with it. The benefit of this could be that it leads to greater innovation and flexibility for the councils involved. The downside is that there's a huge amount of confusion about what is recyclable and what's not – not just by the public but by retailers and manufacturers too.

What's the point?

If recycling doesn't save either energy or raw materials it's pretty pointless

There's also confusion about the objectives of recycling. If it doesn't ultimately save either materials or energy (global warming impact) or both it would seem to be pretty pointless. And yet, to date, the benefits don't seem to be assessed in this way.

One difficulty is that we need to take account of the suitability of the packaging material for the purpose for which it is being used.

To take an absurd example – you might decide to package a joint of beef in a cardboard box. And that box could be made from recycled materials, be recyclable – and be very energy efficient in its manufacture. But, if it doesn't actually keep the meat fresh, far more resources will have been wasted than could conceivably be justified by the unsuitable packaging.

What's happening

Ten years ago (1998) 27% of used packaging was recycled in some way and in 2006 it was 60%, so there's real progress being made on the recycling front. But now attention is focused on reducing the amount of packaging used in the first place.

The Courtauld Commitment, which is a voluntary agreement, signed by most of the leading retailers and manufacturers, committed to halting the growth of packaging by the end of 2008. And the next target is to reduce total packaging use in real terms by 2010. These targets are more challenging than they might appear – and, of course, they're measured by the weight of materials used.

However, there appears to be a growing recognition that measuring the carbon footprint of products and packaging throughout their lifecycle could be a more effective basis for setting targets. Creating a system of this sort won't be without its problems, but it's would certainly be heading in the right direction.

What do we say to Mrs Blogs?

When I wrote the original *Green Consumer Guide* with John Elkington in 1988, 'Mrs Blogs' was our target audience. I'd often challenge John about whether Mrs Blogs would either understand or be interested in what we'd written. John's response was not always charitable to the poor woman. However, I believe that communicating packaging issues to the general public – and getting them to understand them – is no easy task.

SUPPLY CHAIN CARBON IMPACTS

At M&S the relative carbon impacts in the supply chain are as follows: 50% for meat, 20% manufacturing, 5% transport, 6-7% consumer use and 6% packaging.

There's a general assumption that packaging is bad – and that recycling is good. Composting too gets the thumbs up. This rather simplistic perception – endorsed by the media – doesn't take away from the fact that public endorsement of a carbon-based approach will be pivotal to its success.

SUMMARY OF ISSUES

- Local authorities have hundreds of different systems.
- Government targets are set by weight of materials rather than by impact
- There's confusion about what's recyclable and what's not.
- Recycling needs to save energy and or resources to be worthwhile
- Whether packaging is fit for purpose is a key consideration.
- Existing packaging reduction targets are very challenging and unlikely to be met
- Measuring the carbon footprint or products and packaging throughout their lifecycle is the right approach
- Consumer endorsement of a carbon-based system will be key to its success.

Material world

PAPER BAGS WORSE

Paper bags are 6 times heavier and 10 times bulkier than plastic. That means 10 times more vehicles to transport them, more storage space and more emissions. They take the same amount of oil to make as plastic, don't last as long and could release greenhouse gases if they end up in landfill.

I sat opposite someone on the train the other day with a bag proclaiming it was 'environmentally friendly' because it was biodegradable. That's rubbish. But it's illustrative of the confusion and disagreement about packaging and in particular which material is best for what purpose.

Other common misperceptions are that glass bottles are better than plastic, that paper bags are the bees knees and that being able to recycle something eliminates its environmental impact.

With that in mind it might be useful to summarise some of the issues relating to different packaging materials and highlight what needs changing.

	ENVIRONMENTAL ISSUES	WHAT'S NEEDED
Aluminium cans	Huge energy and resources to make – with significant energy benefits to recycling. Cans used at home are widely recycled but less so when drinks are consumed away from home.	More recycling facilities accessible for cans discarded away from home.
Aluminium foil	Huge energy and resources to make. Although there are widespread recycling facilities available, not many people are aware of them.	Greater public awareness about recycling potential – as well as minimising wasteful use of foil.
Biodegradable plastics	Confusion over the benefits of biodegradable plastic and insufficient facilities to make the most of their qualities. Biodegradable plastics fouling up the recycling process. Release of greenhouse gases if discarded in landfill or as litter.	More anaerobic digestion to capture and use biogas. Avoid biodegradable plastics in consumer packaging (see website…..)
Cardboard	Easy to recycle – it's collected by more than 90% of local authorities – but it takes more carbon to produce than most plastic alternatives. Recycled cardboard is about 10% heavier than virgin cardboard.	More returnable crates to replace cardboard boxes in supply chain packaging.
Cartons (Tetrapak)	Collection and recycling of tetrapak has increased significantly over the past 18 months but the recycling facilities are overseas. Paper fibres from tetrapaks are top quality. In the 1990s juice cartons were made 15% lighter and the aluminium layer 30% thinner.	Need local recycling facilities for tetrapak and to increase energy recovery from the foil and plastics.
Glass bottles	Recycling infrastructure is well established and glass recycling means furnaces can be run at lower temperatures, thus saving energy – but transporting heavy glass is not efficient. There's too much waste green glass in the UK and not enough clear glass.	Transporting drinks, such as wine in bulk and bottling in the UK. Specifying clear glass for imported drinks but making UK products from green glass to maximise recycling efficiencies.
Paper bags	Widespread public perception that they're better than plastic bags – leading to greater use. Bulkier, heavier and more fragile than plastic bags – but recyclable.	A move away from paper carrier bags. Where paper is used, it should not be mixed with other materials and should be either composted or recycled after use.
Plastic bags	Excessive numbers of plastic bags are distributed and many of them end up littering hedgerows. Plastic bags used for vegetables, as bread bags and for other packaging are not widely recycled because there is little public understanding about their recyclability.	We need to reduce the number of carrier bags handed out and make sure that the ones used are made from recycled plastic, are re-used as many times as possible and are recycled at the end of their life – including food packaging bags.
Plastic bottles	Very few plastic bottles are made from recycled materials and recycling collection is patchy around the country. Recycling schemes for drinks bottles consumed outside the home are being introduced – www.closedlooprecycling	Recycling of plastic bottles needs to be extended and the use of recycled material in both food-grade and non-food grade containers should be increased.
Plastic film	Plastic film wrappings can be effective at replacing trays and cardboard and generally lightweighting packaging. They're not generally recycled.	Removing trays and printing directly onto plastic film should be encouraged.
Plastic pots - PP (yoghurt)	There are very few local authorities who collect yoghurt pots and other similar containers for recycling.	Need more facilities for recycling PP.

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Packaging at M&S

Even back in 2002 when I started working with M&S packaging was a hot topic – and M&S were seen to be a big culprit in terms of excessive packaging. Since then the company have been doing a lot of work on this issue – and they recognise that there's still more to do.

M&S PACKAGING WASTE

M&S produce 80,000 tonnes of packaging a year. One quarter of this is from wine bottles – 20,000 tonnes - and only 1000 tonnes is from plastic food packaging.

M&S have set themselves four packaging targets, as follows:

1. To reduce non-glass product packaging by 25% by 2012
2. To use only recyclable or compostable packaging by 2012
3. To use more sustainable raw materials in packaging
4. To put clear and honest labelling on packaging about its recyclability

Here are some example of packaging initiatives at M&S to date:

- Saved 1,402 tonnes of packaging between April 2007 and May 2008 – the equivalent of 255 elephants
- Increased the amount of food packaging that's widely recyclable from 68% in October 2007 to 74% in May 2008.
- Introduced the Closed Loop recycling scheme (see previous page) to encourage recycling of food packaging from offices.
- Transport over 70% of food in returnable crates, saving 27,000 tonnes of cardboard per year,
- Worked with Tetrapak to increase recycling of cartons from 20% in April 2007 to 70% in September of the same year.
- Removed PVC from all packaging by 1st January 2000 – previously 1/3rd of the plastics used was PVC
- Included 50% post consumer recycled materials in 63% of PET plastic containers and aim to do this across all plastic packaging.
- Labelled over 83% of products for recycling - the rest are too small, are unpackaged or are seasonal wines.
- Saved 100 tonnes of glass by not importing wine bottles from Australia – and are trialling PET bottles for wine that will be consumed in a short time frame.
- Reduced packaging for fine beans and mange tout by 92% by removing trays and using only plastic wrapping.
- Saved 7 tonnes of waste a year by reducing the thickness of the plastic sleeve on cucumbers

Road Map for Packaging

Where do we want to go from here? Here's my six point plan for future packaging:

1. Minimise the carbon impacts of products and packaging throughout the supply chain (including food waste and transport)
2. Minimum use of raw materials throughout the supply chain.
3. Maximise the use of recycled materials where it's practical and desirable.
4. Maximise recycling where there are tangible and measurable environmental benefits.
5. Communicate packaging priorities and clearly label products for consumers so they can do the right thing.
6. Retailers, manufacturers and local authorities to work together towards the most carbon efficient approach to packaging.

Making the journey from weight based packaging priorities to a carbon-based system will mean some radical re-thinking and changes to marketing of products. The key focus has to be the collection and recycling of materials which will yield the greatest carbon benefit. Otherwise, what's the point?