FACT SHEETS

Recycled Content

The Industry Council for Packaging and the Environment

Introduction

Recycled materials should only be used in packaging when this provides an overall environmental benefit. Often this is the case, but sometimes it isn't. This paper explains why not.

'Closed- loop recycling', where the recycled material is incorporated back into the same type of product is not superior to 'open-loop' recycling, where materials are used for another purpose. Used packaging materials should be free to go wherever they can find a market. The closed- loop concept can actually limit the use of recycled materials.

Above all, considerations about finding an outlet for recycled packaging materials shouldn't be allowed to compromise the safety of food packaging. Safeguarding human health is paramount.

The current situation

There is a long tradition of using recycled materials in the manufacture of new packaging where this results in reduced environmental impact and cost.

For example, less energy is needed to produce new glass, aluminium and steel packaging if scrap material is incorporated. The physical properties of these materials allow them to be recycled continuously, with only small melt losses, so recycled material is used to the maximum extent that it is available.

Waste paper has always been a significant source of raw material for UK-produced paper and board packaging, especially corrugated board, because it is cheaper than imported pulp. However, as the fibres degrade each time they are used, recycled paper products benefit from the addition of virgin fibres to strengthen them.

Since there are only limited opportunities to use recycled plastics in food packaging, the most promising markets for them are in non-food packaging or in applications other than packaging. The use of recycled plastics in packaging can add significantly to the cost. For example, using recycled plastics as the middle layer of a co-extrusion 'sandwich' in non-food contact packs can cost 50% more than virgin polymer.

Some plastics are 'recycled' by being broken down to their chemical constituents and then purified and reformed into a new polymer which is effectively equivalent to virgin material. This can be used for food-contact applications, but it is a new and relatively expensive and resource-hungry process which is only used on a limited scale.

Physical and chemical contamination may also preclude the cost-effective recycling of some material, since it needs cleaning processes which are economically and environmentally costly.

The types of packaging waste available

Packaging waste arises on the premises of packaging manufacturers, packaged goods producers, retailers and other distributors, and at households.

Much of the waste from packaging companies' operations is process waste such as 'clean' off-cuts which can easily be recycled back into the same process.

Waste from packaging plants and retail outlets is often recycled because it is of known composition, but as it is dirtier than 'process waste' energy, water and chemicals are needed to clean it. For paper and some plastics, more material may be needed to produce the same strength than if virgin material was used. The resultant weight increase may sometimes more than cancel out any environmental gain from using the recycled material.

The packaging waste that is most difficult to recycle is the material collected from households. Households generate relatively small quantities of a huge number of different types of material, and the quality of the material collected is variable – flexible packaging may be contaminated with fatty food waste, and containers may have been used by the householder to store dangerous products.

Food contact

About 70% of all primary packaging is used for food and drink. 'Primary packaging' is the container or wrapper that the

consumer opens at home, as opposed to the boxes and pallets used to transport the product from the factory to the store.

Glass and metals are reprocessed at high enough temperatures to ensure that contamination is not a hazard, but most plastics and paper recycled from scrap of mixed origin are unsuitable for direct contact with food products, toiletries and cosmetics, or for pharmaceutical applications.

Different types of plastics have different capacities to retain and release contaminants, so certain recycled plastics may only be suitable for contact with specified types of food.

Industry is working on technologies to increase the safe use of recycled materials in new plastic packaging. These processes need to be closely controlled to prevent contamination from residues from previous use. The US Food and Drug Administration lays down detailed purity requirements for food-contact materials, and in Europe Commission Regulation (EC) No. 282/2008 defines when recycled plastics can be used in the manufacture of packaging for food-contact use.

For certain plastics, such as polyolefines, 100% sorting efficiency may be necessary, and this is unlikely to be achievable outside a controlled product loop. For other materials, PET for example, safety can be assured with a lower sorting efficiency. The sorting efficiency of each material has to be identified on a case-by-case basis.

The implications of mandatory minimum recycled content

A lot of effort has been put into producing packaging materials that are consistent, as thin as possible (source reduced), and of guaranteed high quality. Industry uses recycled materials where it can, but imposed product specifications that demand the use of minimum levels of recycled materials in new packaging would be counterproductive.

The concept of a ‘closed loop’ where a product is constantly recycled back into itself may, paradoxically, result in reduced use of recycled materials. Closed-loop recycling ignores other, possibly better, market outlets and it concentrates any impurities and contaminants present in the materials. For example, additives such as clay coatings build up as paper is repeatedly recycled.

A mandatory minimum recycled content in packaging would cause recovered materials to be channelled into packaging when they might more economically be used in other products. It might be better to use recovered metal to make a manhole cover or a car engine near the point where the waste arises than to ship it across the country for use in packaging. Wherever a market develops, the material should be free to go.

A minimum recycled content requirement could also run into legal problems. EU law forbids member states from adopting technical specifications that exclude products lawfully manufactured in another EU country, and even if recycled content legislation were adopted at European level, it would be open to challenge under the World Trade Organisation’s General Agreement on Trade and Tariffs (GATT).

INCPEN believes that markets for recycled materials can best be encouraged by avoiding any such restrictions, mandatory or otherwise. The secondary materials market has traditionally been entrepreneurial and if we want to expand it, we need to keep it as unfettered as possible.

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