# Guide to Returnable Packaging

This guide to Returnable Packaging has been produced by PHS Teacrate to highlight the benefits of returnable or reusable plastic packaging versus cardboard or single trip packaging alternatives.

It also provides a calculator tool to help you derive the payback period that would apply to your business if you were to replace cardboard/single trip packaging with returnable packaging.

The information provided in this guide may be used to assist you in developing a business case for future investment in returnable packaging.

## Background

Returnable packaging, typically plastic containers such as crates, totes, trays or boxes are increasingly replacing cardboard cartons in the food and retail supply chains as well as in the wider manufacturing and distribution sectors.

The Packaging Waste Directive in the UK has focused business on the clear logic that it is better to avoid packaging waste in the first place than it is to dispose of it later, and so there has been a steady move to returnable containers. The steeply increasing costs of waste disposal are making payback periods shorter, and the added benefits of returnable packaging are becoming abundantly clear.

The businesses that made such changes at the start of the Packaging Waste Directive, or before, had still to deal with cardboard and other "one trip" packaging at goods inwards. This entailed decanting suppliers' products into plastic totes or containers. The next step - one which the distribution industry had already taken a lead in - was to get suppliers to ship goods in the right specification plastic containers.

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## Production Efficiency

Manufacturing businesses, which have suffered from having cartons cluttering the shop floor, now find themselves cleaner, tidier, safer environments as plastic containers are introduced instead.

The result tends to be a better-ordered production area, with improved inventory control, better product flow and more efficient running. Some plants use the change to reassess the process of getting products to the production area. This can result in the scrapping of central stores and adoption of Kanban or similar practices centred around a modular system of plastic containers or totes.

## Fit for Purpose

Modern plastic containers are traceable and trackable; they feature label holders, pimple pads for easy removal of temporary adhesive labels and the provision for electronic tagging devices. Containers can also be colour-coded to identify destination or contents.

Their rigidity helps to protect goods in transit against knocks, and they are resistant to moisture and other contamination.

Attached-lidded containers (ALC's) have an integral hinged lid, which offers extra protection. They also feature tamper-evident security sealing systems. Lids can be folded to the side to allow nesting when empty, saving space on return transport or whilst in storage.

In the food, medical and pharmaceutical sectors in particular, the introduction of plastic has eliminated fibrous materials such as cardboard and wood from production areas, leading to better hygiene.

## Corporate Image

There is one final case for plastic and that is the publicity angle. Plastic containers can be manufactured in the owners company colour and carry their name and logotype printed or embossed on its side. Plastic containers are simple to keep clean and can carry a company's corporate message as well as its produce.

Companies changing to returnable plastic containers feel that the containers give them a more professional profile and they report improvements in customer satisfaction.

## To Conclude ....

Grasping the nettle of returnable packaging has highlighted various knock-on advantages. The initial expense is soon absorbed - often ahead of projected times as companies find additional uses for their plastic containers - and containers habitually out-live their projected life-span by many years.

The pressure to take the returnable packaging step continues to build, but managers can console themselves with the prospect of a happier, smarter and more productive workforce at the end.

# Would Returnable Packaging Work for You?

Assess the annual cost of your current cardboard or limited trip packaging system against a returnable packaging system by using the calculator tool below:

## To calculate annual cost of current cardboard/limited trip packaging...

| | | Annual Cost |
|---|---|---|
| A. How many cardboard boxes or limited trip packs are used per year?_____ | | |
| B. What is the ave. unit cost per cardboard box / limited trip packaging? £_____ | | |
| C. Additional annual cost for tape, banding, shrink wrap & miscellaneous materials £_____ | | |
| D. Annual cost of cardboard / limited trip: (A x B) + C | = | £_____ |
| E. Hours per year spent assembling packaging? | | |
| _____hours x £_____per hour labour | = | £_____ |
| F. Additional annual costs:- | | |
| product damage (caused by exposed staples, split boxes,general lack of protection, water contamination, etc) | = | £_____ |
| Double handling within supply chain process | = | £_____ |
| Storage costs of packaging materials | = | £_____ |
| Cost implications of Waste Packaging Regulations | = | £_____ |
| | + | |
| **X. Total annual cost of cardboard / limited trip system** | = | £_____ |

## To calculate cost of plastic containers required to operate a returnable system...

| | | Annual Cost |
|---|---|---|
| G. | Total quantity of plastic containers required to replace disposable /limited trip system - take into account:- | |
| | • Number of containers packed each day | |
| | • Number of containers collected at a time | |
| | • Frequency of collection | |
| | • Time to unpack and return the containers (days) | |
| | • Shrinkage @ 2% per year | |
| | • Buffer stock for seasonal peaks | |
| | Total quantity of plastic containers required = _____ | |
| H. | Cost per plastic container = £_____ | |
| I. | Cost of implementing a returnable system: G x H = | £_____ |
| J. | Other potential costs... | |
| | Annual transport cost to return empty boxes | £_____ |
| | Annual interest on Capital Sum (if borrowed) | £_____ |
| | | + |
| **Y.** | **Total cost of implementing returnable system =** | **£_____** |

## To calculate payback period when replacing cardboard / limited trip packaging with plastic containers...

PAYBACK PERIOD = Y / X = YEAR

# Returnable Packaging Vs. Limited / One Trip Packaging

## Advantages & Disadvantages

### Limited / One Trip Packaging Advantages: -

· Initially inexpensive
· Lightweight
· Ideal for non-return applications such as export outside Europe
· Recyclable

### Limited / One Trip Packaging Disadvantages: -

· Cost of collection & disposal
· Have to purchase in bulk
· Storage
· Offers limited protection to contents
· Time consuming to assemble
· Staples / splinters could damage contents or injure operator.
· Possible absorption of contaminates
· Not weatherproof
· No constant tare

### Returnable Packaging Advantages: -

· After initial 'pay back' – more cost effective than one trip packaging
· Longevity
· Constant tare
· Purchase or rental as required
· Secure stacking in storage and transit
· Nests / folds for storage and to save on return transport costs
· Protection of contents
· Operator comfort & safety
· Can be manufactured in corporate colour and 'branded' with owners logo & details
· Traceability
· Weatherproof
· Retention of preserving agents
· Non-absorption of contaminants
· Hygienic & easy to clean by machine or pressure hose
· Recyclable

### Returnable Plastic Containers Disadvantages: -

· Initially expensive
· Weight
· Cost if not returned