

## Information sheet

# Product Re-formulation: Channelling Efficiency Savings

## Re-thinking how products are used and designed for a sustainable future

Packaging plays an important role in protecting products and prolonging shelf life. A lot has been done to optimise it and more could be done around altering the product itself – by changing its shape, size, format or composition.

This approach enables companies to achieve major efficiency savings as it pays dividends throughout a product's life cycle: from manufacture and distribution, to retail and the consumer.

### The potential

Whilst packaging optimisation can bring significant environmental and commercial benefits, the first place to start is to look at product design or development. Is it possible to change the shape or composition to achieve knock-on efficiencies throughout the supply chain?

For example, household products such as Persil and Ariel detergents have made use of concentrates for some time. Yet there has only been a recent shift to use them more widely in soft drinks such as juices and squash.

Other sectors that have adopted concentrated products include home improvement and automotive, with brands such as Provado bug killer, Roundup weed killer and Car Plan screen wash all taking this approach. Within health and beauty, King of Shaves and Sanex deodorant have also moved towards concentrates, and soup brands Campbell's and Cup-a-Soup have produced condensed and powdered products for years.

WRAP research has also shown that consumers are increasingly looking for sustainable choices, and innovative changes to a product can give a brand a strong unique selling proposition over competitors.

### The benefits

- reduced raw material costs;
- lower distribution costs and emissions;
- less space required for storage – on shelf, in store and at home;
- reduced packaging so less waste for recycling, re-processing or landfill; and
- the potential to pass on cost savings to the consumer and to meet their needs for less packaging.

### Innovative industry examples

This information sheet focuses on a number of projects which provide an insight into how companies have successfully re-formatted or re-formulated a product. It highlights the environmental and commercial benefits that can be achieved.

### Refillables

Product refills enable companies to significantly reduce packaging and raw material use, and can make financial savings through efficiencies in transportation and storage. Any cost savings in the supply chain may be passed on to consumers, and these products can help to engage them in environmental issues and generate product loyalty. Communicating the benefits to consumers is therefore important.

Refills are growing in popularity in the grocery sector. Hand wash refills, such as Radox, are becoming mainstream and coffee refill pouches were launched by Kenco in 2009, supported by a major advertising

campaign. The coffee refill packs can be sent for recycling to make into products like shopping bags or umbrellas.

More unusual examples include:

### Robert McBride - i-clean

This company has introduced an innovative multi-surface cleaner – 'i-clean' - with concentrated refills. It enables consumers to reuse each trigger bottle up to 10 times.

Once the initial bottle has been purchased, consumers are able to buy the 'i-clean' refill packs which provide enough formula for two bottles of product, therefore lasting twice as long and offering value for money.

The environmental benefits are considerable – if each bottle is re-filled 10 times it represents a potential packaging saving of 340g of plastic and cardboard. Robert McBride estimates that it takes around 342 truck loads to deliver a year's supply of standard trigger cleaner, which compares to 58 for the 'i-clean' refillable solution. This could potentially reduce lorry loads by around 85%, as well as avoiding the transportation of 4.2 million litres of water over a year.



### Wonder Tablitz – cleaning

Another advancement in household cleaning is 'Wonder Tablitz'. A spray bottle with an integrated compartment that contains three dissolvable tablets of cleaning concentrate. The bottle can be used over and over again by simply placing a tablet inside and filling the bottle with water from the tap. Once the tablets are used, the user can purchase more without ever having to purchase an additional bottle or sprayer.

The benefits are clear – a reduction in the use of natural resources, less energy needed for manufacture and reduced packaging waste, coupled with a strong value proposition for customers.

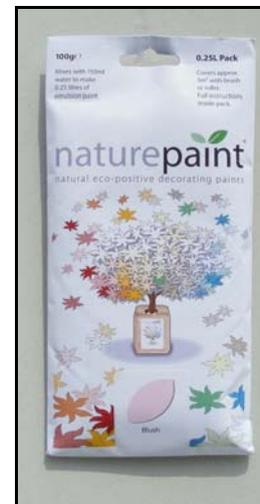
## Re-formatted products

This involves thinking through the entire lifecycle of a product and developing innovative and often radical solutions that inspire consumers.

### Naturepaint – paint powder

Naturepaint manufactures a sustainable, natural and non-toxic material which is produced as a lightweight dry powder in paper packs. Customers mix what they need with tap water at point of use, creating rich emulsion paint. At less than half the size and weight of liquid paint, a 60% reduction in transport emissions and storage costs is achieved.

The product contains no volatile organic compounds and the paper packaging is fully recyclable and easily compressed, meaning that there are no bulky containers for disposal.



## Concentrates

These products contain less water, therefore, the products are not as bulky and require less packaging. Transportation costs are also cut through fewer lorry loads, and reduced space is required for storage both in-store and in the home.

### Tesco – squash

Working with its supplier, Princes, Tesco identified that it could achieve the same flavour and 'dilute to taste' principle with 'double' concentrated squash – halving the amount of concentrate required per serving.



The change in product has enabled Tesco to replace 1, 2 and 3 litre bottles with 750ml and 1.5 litre sizes made from 100% recycled plastic. The environmental benefits are illustrated below:

Moving from 3 litre to 1.5 litre pack

- 46% packaging reduction;
- 34% reduction in vehicle movements; and
- annual saving of 469 tonnes of plastic through reduced raw material used.

Importantly, Tesco has also promoted the squash to consumers by highlighting the reduced packaging to engage them in the benefits of sustainable products and also ensuring that they use the correct dosage. These product types are becoming more widespread.

### Procter & Gamble (P&G) – detergent

P&G developed its Ariel Excel Gel with excellent cleaning, coupled with low environmental impact, in mind. By developing a new, highly concentrated gel format, P&G has achieved 45% reduction in packaging compared to its standard Ariel liquid, without compromising on results.



Alongside the changes, P&G has also run a successful 'Cool Clean' campaign (washing at lower temperatures), recognising that consumers are becoming more environmentally aware and looking to make efficiency savings.

Following the success of the product and the establishment of the gel format, P&G has now rolled out gels across its other detergent brands.

### Product shape

Reducing or adjusting the shape of a product can enable a more compact pack size – generating financial and environmental returns through more efficient palletisation, storage and transport.

### Dove Farm Organics and Sainsbury's Basics Wheat Biscuits

Premium brand 'Doves Farm Organics' and value 'Sainsbury's Basics' wheat biscuits have taken a simple yet effective approach to achieving volumetric efficiencies. The biscuits now have square corners

rather than the traditional 'lozenge' shape, which reduces unused space in the pack.

This change in shape means that each square biscuit is now 7.5% thinner, even though the overall weight (18g) remains the same. In turn, the height of the carton is reduced by 7.5%, and 100 more boxes can be loaded on each pallet, resulting in a 20% improvement in pallet loads. The Basics range utilises a more efficient box shape, which further enhances material and volume efficiency.



### Product pack sizes and portioning

Offering consumers smaller pack sizes and portioned packs can help them reduce their food and drink waste. Examples of this are the new, smaller loaves on the market ('Little Big Loaf' offered by Kingmill and the mid-sized loaf offered by Warburtons).

Portioned packs are another way of reducing household food and drink waste. Examples include large packs of individually wrapped fresh chicken or salmon pieces. Whilst this increases packaging, UK households actually waste more food (8.3 million tonnes (mt)) than packaging (4.9 mt) per year and food waste has a greater global warming potential than packaging.

### Reusable packaging

Reformulating product delivery systems provides another channel where resource efficiency savings can be realised. DIY retailers Argos, Homebase and B&Q have incorporated reusable transit packaging (RTP) for the home delivery of bulky items prone to product damage.

Argos and Homebase introduced RTP for upholstered furniture which will reduce annual packaging usage by 1,800 tonnes. B&Q use RTP for kitchen worktops and is now saving over £1 million a year, with annual packaging usage cut by 1,200 tonnes and saving 900 tonnes of potentially damaged worktops going to landfill.

It's important to note, however that reusable packaging systems are not always the most appropriate solution. The relative merits of single use and reusable packaging are dependent on the specific circumstances of the individual product, packaging format, supply chain and logistics in a given situation.

WRAP and industry trials are also being conducted on the reuse of paint containers with Crown Paints and RTP for kitchen/bedroom (B&Q), and postal products (Parcelforce).

Research into the feasibility of trialing in-store self-dispensing and reuse of containers for drinks has been done and represents a radical shift and possibilities for the way drinks could be delivered to consumers.

### Product self-dispensing

A good example of reformulating product delivery systems is a WRAP part-funded trial with ASDA and project partners including Equiserv, Unilever and McBrides, offering liquid fabric conditioner in reusable pouches in five UK stores.

The product is piped from 1,000 litre reusable containers at the back-of-store via overhead pipes to a dispenser in the aisle.



Customers dispense the product into reusable pouches that can be refilled up to 10 times. If successful, the trial could introduce a new concept to UK shopping and will considerably reduce packaging waste, as well as deliver cost savings both to the supplier and consumer.

### Other considerations

Although preventing waste or emissions at the outset is always the most desirable environmental option – and can deliver cost savings – there are also other opportunities to consider.

For instance, increasing recycled content uses less virgin material and supports closing the recycling loop which creates market opportunities for recycled materials. Designing with recyclability in mind is also crucial to reduce waste going to landfill.

#### Product Waste

It is crucial that businesses ensure that re-formulating products and packaging does not result in increased product waste. For example, from damage in distribution; wastage during decanting and dispensing or by reduced shelf life.

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