



## Bag-in-Box solutions

The more sustainable solution  
for liquid packaging

# Sustainability at DS Smith

## About sustainability at DS Smith

At DS Smith, sustainability is the foundation of our overall business strategy.

One of our four strategic goals is to **Lead the Way in Sustainability** because we recognise that operating ever more sustainably can provide opportunities for growth, support risk management, help us operate more efficiently and enhance stakeholder relationships.

### Our approach

To us, truly sustainable value is found when balancing the needs of our business, our environment and our people.



#### Our Business

Creating shared value through responsible recycling, paper and packaging solutions



#### Our Environment

Minimising our impact, from design to production and supply to recycling



#### Our People

Ensuring the safety, wellbeing and development of colleagues and contributing to our communities

At DS Smith, transparency is highly important to us. We value the chance to have our performance independently assessed through submissions to the following benchmarks:



## Bag-in-Box sustainable features

Bag-in-Box is a more sustainable alternative to other forms of packaging, enabling carbon reductions, cost savings and efficiencies in our customers' supply chains.

Each feature of the design plays a key role.



### The outer box

This is made of corrugated cardboard. Cardboard packaging has one of the strongest recycling infrastructures of any material. It is 100% recyclable and containing an average of 88% recycled fibre. The box makes Bag-in-Box format strong, optimised and stackable for maximum efficiency in the supply chain.

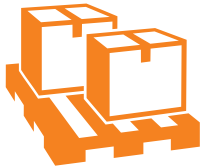
### The inner plastic bag & dispensing tap

The inner bag and dispensing tap are designed to be as resource efficient and lightweight as possible without compromising protection of the product. They extend product shelf-life to an additional 3-12 weeks after opening compared to other packaging formats, greatly reducing the amount of food waste. Bag-in-Box bags are highly energy efficient to produce, requiring only 100 kWh per tonne. They are recyclable, too.

# A more sustainable solution

## Our Life Cycle Analysis results

In order to better understand the sustainability benefits of Bag-in-Box packaging, we commissioned an independent, scientific study to measure the overall environmental performance of Bag-in-Box versus alternative packaging for liquid products.



- **Lightweight & efficient**

Weighing an average **54% lighter** than the next best alternative across five categories, BIB reduces supply chain costs and provides highly efficient transit and storage when empty. It is 80% lighter than glass and provides **20% energy savings during transport.**



- **Recyclable & low waste**

DS Smith Rapak designs for recyclability. Easy and convenient deconstruction means **minimal packaging waste** upon disposal. Our LCA showed Bag-in-Box provides up to **5 times less waste than rigid containers.** The cardboard outer box is 100% recyclable and collected widely. The inner liner is also recyclable, with up to 31% recycling rates for our non-barrier polyethylene bags.



- **Low carbon footprint**

With an average **42% lower carbon footprint** than alternatives across five categories, and up to **8 times less carbon footprint per pack compared to PET bottles**, Bag-in-Box is by far a more sustainable solution.

## LCA Findings

**Flexible Packaging Solutions**  
vs. other packaging alternatives



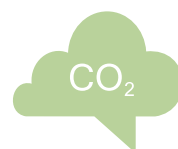
**70-80%**  
less waste than  
glass bottles

**1/2** marine  
toxicity per pack vs.  
PET bottles



Up to **50x**  
lighter than steel  
alternatives

Up to **17x**  
more efficient to  
produce than HDPE

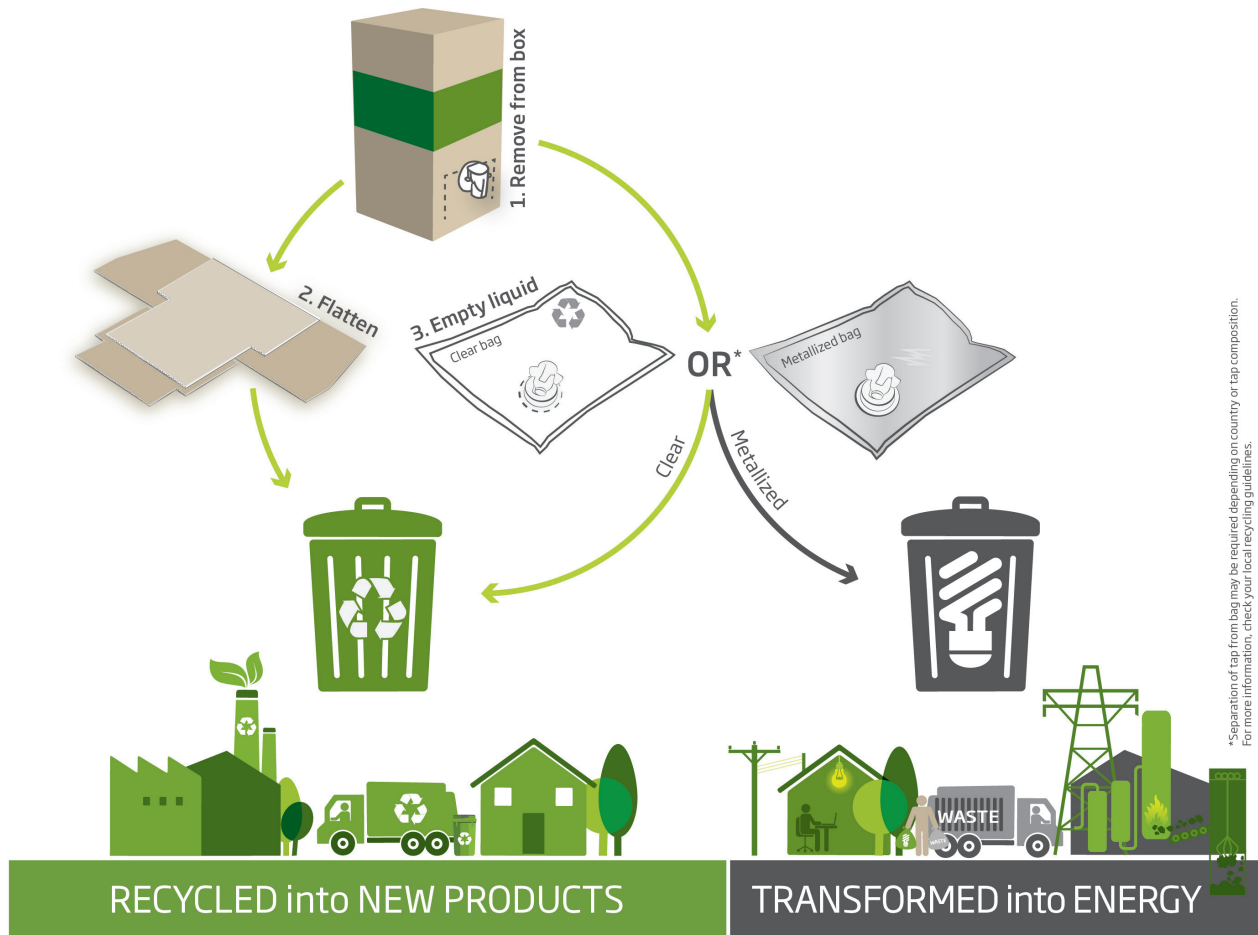


**42%** less  
CO<sub>2</sub> on average than  
next best alternative

**50%** lighter  
on average than the  
next best alternative



## How to recycle Bag-in-Box



Work with an award-winning company **leading the way in sustainability**



**2018 FINALIST**

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