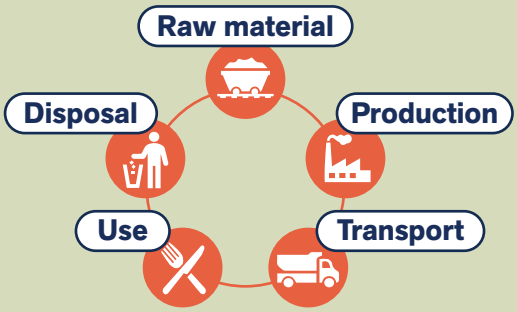
Comparing carbon footprints: disposables vs reusables

Together with the University of Exeter and Bunzl Catering Supplies (UK) we have conducted a Life Cycle Analysis (LCA), comparing best-selling disposable cups and containers with reusable ones. The key findings will support you in understanding which factors affect your packaging's carbon footprint and in choosing the right solution for your situation.

Our key findings

- **Manufacturing** the products covers the largest part of their carbon footptint
- From the break-even onwards, **the more you reuse**, the more carbon you offset
- Aim for a **return rate** of at least 80-90%
- **Washing off-site** only slightly impacts a reusables' carbon footprint



A **Life Cycle Analysis (LCA) =** a calculation of the carbon emmissions (grams CO2 equivalents) of the lifecycle of a product. We included the full lifecycle: from raw material till end-of-life.

1 Manufacturing the product has the biggest impact

Find out the contribution of each life cycle aspect to the product carbon footprint (g CO2e).

Want to learn more? Get in touch today.

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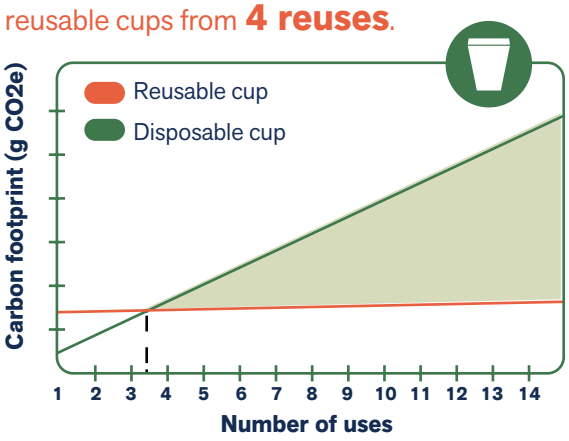
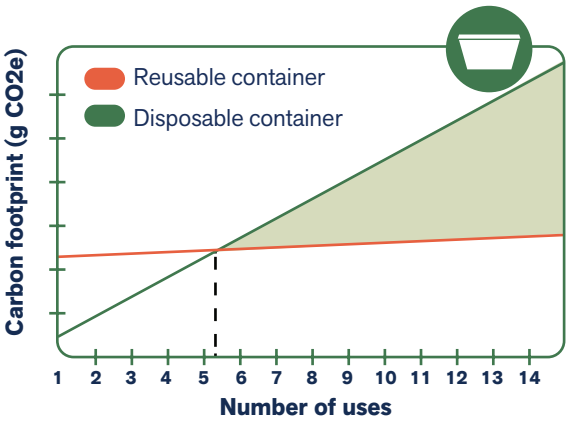
2 The more often you reuse, the more carbon you offset

You start offsetting your footprint when using reusable cups from **4 reuses**.



You start offsetting your footprint when using reusable containers from **6 reuses**.



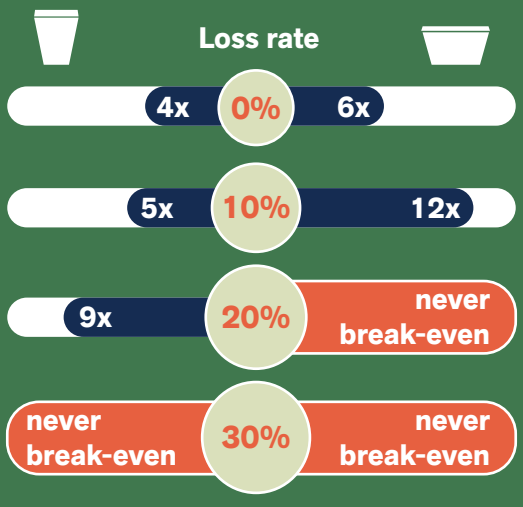
The **carbon footprint** of a disposable cup or container is the same for every use, as you need a new cup or container for each serving. For a reusable this is different: the initial carbon footprint is higher, but the additional emissions per extra use are lower.

This leads to a **break-even point** in the number of uses, after which you start offsetting carbon for every additional reuse compared to using a disposable. If you can achieve this minimal number of reuses, it makes sense to switch to reusable packaging.

3 A high return rate is essential

Losing cups or containers in the reusable packaging system impacts where the **break-even** with disposables lies.

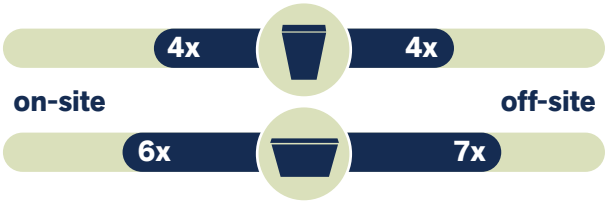
For a carbon efficient reusables system, it's essential to achieve a **return rate** of at least 90% for food containers and at least 80% for cups.



Reuses to break-even, considering on-site washing.

4 Washing has a minimal impact on the footprint

When washing reusables on-site, no transport is required, while when washing off-site, the water and energy use may be more efficient.



Reuses to break-even, considering a 0% loss rate and 50km roundtrip to washing facility for off-site washing.

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