SINGLE-USE VS MULTIPLE-USE

EPPA
European Paper Packaging Alliance

This LCA meets ISO standards and has been independently assessed by Germany's TÜV (technischer Überwachungsverein).

SINGLE-USE PAPER PACKAGING: THE EVIDENCE-BASED ENVIRONMENTAL SOLUTION.

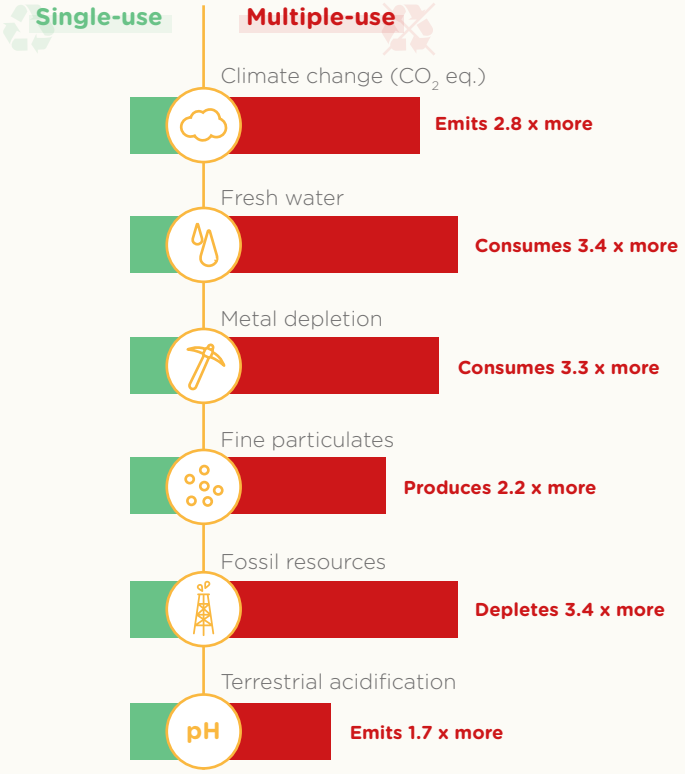
Reusing tableware seems intuitively better for the environment. Considering all impacts, however, this is often not the case.

Thanks to a certified and 3rd party reviewed comprehensive Life Cycle Assessment (LCA) study carried out by Ramboll, an independent Danish consultancy, the science is now challenging the common misconception that reusable food and drink packaging is more sustainable than single-use paper packaging. In 6 of 9 categories, including climate change and water usage, single-use paper products performed better than reusable tableware.

Reusable packaging requires industrial **washing systems** that consume **energy, water** and **detergents**. Unlike paper-based single-use products, which are **renewable, recyclable** and use **less energy** and **fresh water** – an increasingly scarce resource.

The LCA study clearly shows that single-use paper-based systems have a "very significant" environmental advantage over multiple-use systems in real-world conditions.

Compared to paper-based single-use, a PP plastic multiple-use system:



Both systems are equally considered at a 30% recycling rate. Results are similar for a traditional ceramic, glass and metal tableware set, also tested. Multiple-use systems perform better only in ionizing radiation (1.6 times fewer kBq Co-60 eq. to air) and freshwater eutrophication (4.8 times fewer kg P eq.), with only a minimal advantage for ozone depletion. The results represented here are for the baseline scenario.

If the studied multi-use system was introduced across Europe, it would be equivalent to an annual extra:

1 million petrol cars.

750,000 people's freshwater needs.

The **advantages of paper-based items** become even clearer when the recycling rate of restaurants increases, especially when looking at the levels of **freshwater consumption**, which is **increased from 3,4 to 228 times** when the recycling reaches 70% and can improve further as the recycling rate increases.

This LCA study accounts for the comprehensive use of 24 different food and beverage containers used in Quick Service Restaurants, including:

Find further details on the LCA study here. Results updated August 2021.
The executive summary with the sensitivity analysis can be provided upon request – please contact us at mail@eppa-eu.org or visit https://www.eppa-eu.org/