

SINGLE-USE VS MULTIPLE-USE

USING SCIENCE TO CHALLENGE THE MISCONCEPTIONS

Single-use paper packaging in Quick Service Restaurants is better for the environment than reusable tableware, says new European study from Ramboll. Study challenges common perception that reusable tableware has lower environmental impacts.



VS









the current system in Quick Service Restaurants based on single-use paper-based products










Multiple-use tableware alternative options are made of plastic (polypropylene - PP) in the baseline scenario or traditional crockery (ceramic, glass, metal and plastic - PP) and they can be washed and dried either in-store or out-of- store

PAPER SINGLE-USE SYSTEM

MULTIPLE-USE SYSTEM

The comparative LCA study has taken into account a comprehensive use of 24 different food and beverage containers which are used to serve all food and beverages in Quick Service Restaurants:

-  cold and hot cup
-  salad bowl with lid
-  ice-cream cup
-  fry bag/basket fry carton
-  wrap/clamshell or plate/cover or tray
-  cutlery set

Category	Benefit Level	Percentage Change	Impact Comparison
 Climate change	✓ VERY SIGNIFICANT BENEFITS FOR SINGLE-USE	+177%	HIGHER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Freshwater Consumption	✓ VERY SIGNIFICANT BENEFITS FOR SINGLE-USE	+267%	HIGHER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Fossil Depletion	✓ VERY SIGNIFICANT BENEFITS FOR SINGLE-USE	+238%	HIGHER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Fine Particulate matter formation	✓ VERY SIGNIFICANT BENEFITS FOR SINGLE-USE	+132%	HIGHER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Terrestrial Acidification	✓ VERY SIGNIFICANT BENEFITS FOR SINGLE-USE	+72%	HIGHER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Stratospheric Ozone Depletion	NOTICEABLE BENEFITS FOR MULTIPLE-USE SYSTEM	-11%	LOWER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Metal Depletion	NOTICEABLE BENEFITS FOR MULTIPLE-USE SYSTEM	-12%	LOWER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Ionizing Radiation	SIGNIFICANT BENEFITS FOR MULTIPLE-USE SYSTEM	-37%	LOWER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO
 Freshwater Eutrophication	VERY SIGNIFICANT BENEFITS FOR MULTIPLE-USE SYSTEM	-81%	LOWER IMPACTS OF MULTIPLE-USE BASELINE SCENARIO

Critical Review of Life Cycle Assessment (LCA) certified by TUV:

- The methods used for drawing up the LCA are in accordance with the requirements of DIN EN ISO 14040:2009 / DIN EN ISO 14044:2018.
 - The methods are scientifically well-founded and are in accordance with the state of the art of LCA.
 - The data used are adequate, appropriate and well-founded with reference to the objective of the assessment.
 - The evaluations take into consideration the objective of the assessment and the limitations which were identified.
 - The LCA is consistent and transparent.

Terminology used for interpretation refers to relative difference in % based on the respective indicated single-use system as reference value (e.g. baseline scenario): <5%: marginal difference (i.e. uncertainty threshold); 5 to 10%: minor difference; 10-20%: noticeable difference; 20-30%: moderate difference; 30-50%: significant difference; >50%: very significant difference