

Learnings from multiple studies



Reusable v Single-use

What is better for the environment in Quick Service Restaurants?



The need for a science-based approach

EPPA's priority is to provide the best environmental and most hygienic renewable paper-based products for the European population.

Why did EPPA commission studies?

We want to provide a scientific basis for discussion with authorities on the policy developments within the European Union regarding the circular economy and waste prevention.

EPPA has commissioned five studies since 2020:

- **3 environmental Life-Cycle-Analyses**
- 1 economic impact assessment on SU vs Reuse
- 1 hygiene report on SU vs Reuse

These studies were conducted by independent experts who also work for the EC, such as Ramboll and RBB Economics



The need to safeguard our climate goals

Looking for the best environmental solution is a legal requirement



When applying the waste hierarchy, **Member States shall take measures to encourage the options that deliver the best overall environmental outcome.** This may require specific waste streams **departing** from the hierarchy **where this is justified by life-cycle thinking** on the overall impacts of the generation and management of such waste. *(Waste Directive 2008/98/EC, article 4§2)*

Mere “waste reduction” shouldn’t prevail over the “overall best environmental outcome”



The need for robust & representative LCAs

QSR provides a standard EU study case

- A comparable system across EU
- A full set of representative packaging
- Primary data for the packaging, the washing process and the QSR system
- Best in-class dishwashers delivering the highest efficiency in HORECA
- ISO compliance and external review

Single-use Paper packaging



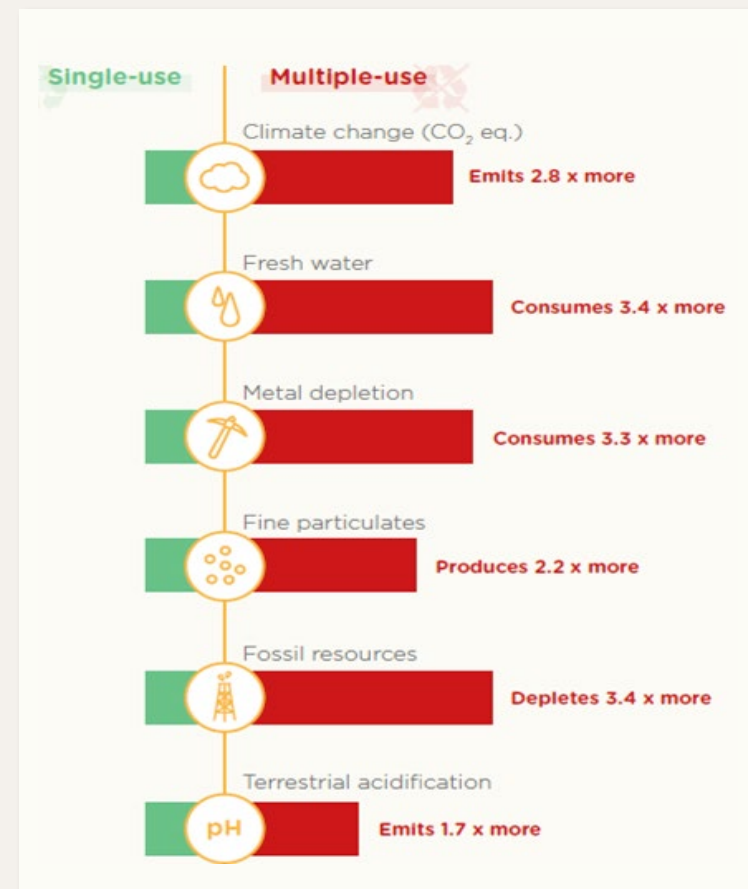
Multiple-use Plastic packaging





In-store LCA

- An ISO 14040/44 third party reviewed study
- Seven types of packaging including **24 products** in **paper, plastic, ceramic, glass and metal compared** - covering all types of QSR servings
- **In-store and out-store washing** considered
- **Different number of reuse** considered: 100 for plastic, 500 for ceramic and glass, 1000 for metal
- **Different recycling rates** considered: 0%, 30%, 70%
- Two major “hotspots”: the **production** of the paper for SU, and the **washing-drying phase** for MU



‘Very significant benefits’ for SU paper-based tableware



Take-away meta-analysis

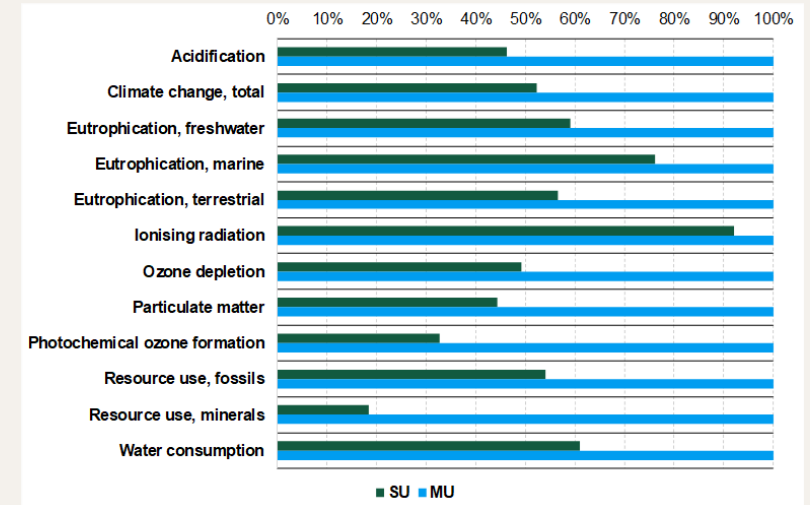
- The meta-analysis compares 26 relevant studies on take-away
- Both Single-Use and Multiple-Use systems are affected, but to a different extent:
 - Impacts for Single-Use systems are *“limited to few aspects”*
 - **Multiple-Use systems are affected *“not only by the same impacts but also by another series of impacts related to exclusive phases”*, mainly:**
 - *Preliminary washing at home*
 - *Transport back to restaurant*
 - *Decrease in the number of reuse due to non-returned products*

“It can be concluded that shifting from in-store consumption to take-away would be more burdensome for MU systems than SU systems”



Take-away LCA

- An ISO 14040/44 study reviewed by 3 senior experts
- **All takeaway options considered:** Drive, Delivery, On-the-go, Click and collect
- Eight types of packaging including **17 products in paper or plastic**, covering all type of servings
- **In-store and out-store washing** considered
- **Different number of reuse** considered: 50 and 100
- **Different recycling rates** considered
- 4 major “hotspots”: **production and converting** for SU paper, **transport and washing** for plastic MU



Single-use tableware performs better in ALL impact categories

Key take-aways

- Single-use and reusable paper-based packaging should not be opposed, but compared
- Mere “waste reduction” should not prevail over the “overall best environmental outcome”
- Studies show that paper-based packaging provides greater environmental benefits
- Reusable packaging comes with a washing and transportation burdensome system
- Reusable packaging will mainly be made of plastic
- Recycling improves the paper-based SU products’ environmental performance

Thank you



EPPPA

European Paper Packaging Alliance