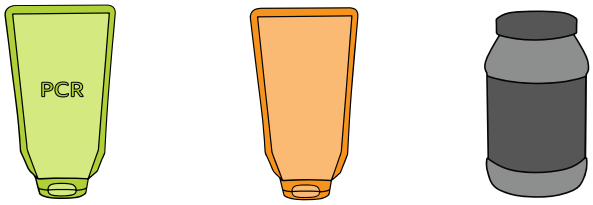
STREAMLINED LIFE CYCLE ASSESSMENT* MAYONNAISE PACKAGING CASE STUDY

MAYONNAISE PACKAGE COMPARISON

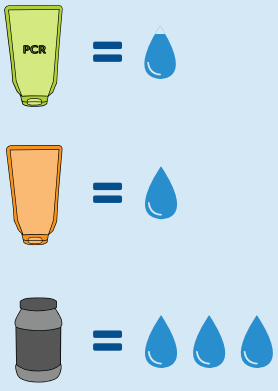
Mayonnaise is a popular condiment sold in a variety of packaging formats. Two packaging formats for the sandwich spread were evaluated with a cradle-to-grave boundary for this Life Cycle Assessment study: a PET jar and the premade STANDCAP Pouch, an eco-friendly inverted flexible pouch.



PCR STANDCAP | STANDCAP | PET JAR

Water Consumption

Due to the minimal amount of water needed for its laminating and extrusion process, the premade STANDCAP Pouch results in nearly **70% lower** water use than the PET jar (and **73% less** when incorporating in the PCR content).



Greenhouse Gas Emissions

Due to its lighter weight and less energy intensive manufacturing process, the premade STANDCAP Pouch with PCR produces GHG emissions nearly half **(-50.2%)** that of the rigid PET jar, which is a product of the weight difference between the two package formats, as well as the manufacturing difference.

Fossil Fuel Consumption

The premade STANDCAP Pouch results in over a third less **(-38.1%)** fossil fuel resources, with additional fossil fuel reduction **(-44.5%)** to produce the PCR pouch versus the PET jar example. This is largely driven by the PET jar using substantially more material to package nearly the same amount of product.

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*All environmental impact metrics were developed using the streamlined life cycle assessment tool, EcoImpact-COMPASS®

END OF USE SUMMARY

SOURCE REDUCTION BENEFITS

According to the U.S. EPA Waste Hierarchy, the most preferred method for waste management is source reduction and reuse.

A major benefit of flexible packaging is the high product-to-package ratio that it offers.

RECOVERY BENEFITS

PCR STANDCAP

1x
amount of material ending up as municipal solid waste

STANDCAP

1x
amount of material ending up as municipal solid waste

HDPE BOTTLE

1.3x
amount of material ending up as municipal solid waste

High product-to-package ratio:

95% Product weight | **5%** Package weight

95% Product weight | **5%** Package weight

Low product-to-package ratio:ratio:

92.1% Product weight | **7.9%** Package weight

While many multi-material flexible packages are not yet recovered and re-cycled in any significant amount, they still result in a substantial reduction in the amount of material sent to landfill versus other types of packaging.

The recycling rate of the PET jar would need to increase by nearly double — **26.8%** to about **54%** — to match the premade STANDCAP Pouch's lower amount of material discarded.

IMPLICATIONS

The premade STANDCAP Pouch has a number of sustainability benefits when compared to a rigid inverted container or PET jar for mayonnaise. These include lower fossil fuel and water use, GHG emissions, better efficiency of materials and considerably less material discarded at end-of-life.

FORMAT	FOSSIL FUEL CONSUMPTION (MJ-EQUIV)	GHG EMISSIONS (KG-CO^2 EQUIV)	WATER CONSUMPTION (L)	PRODUCT-TO-PACKAGE RATIO (%)	PKG LANDFILLED (G)/1,000 KG MAYO)
PCR STANDCAP POUCH	1.81 (-44.5%)	.08861 (-50.2%)	25.02 (-73.3%)	19:1:1 (95.0% : 5.0%)	52,381 (-24.7%)
STANDARD STANDCAP POUCH	2.01 (-38.1%)	.09379 (-47.2%)	28.85 (-69.2%)	19:1:1 (95.0% : 5.0%)	52,381 (-24.7%)
PET BOTTLE	3.26	.1777	93.59	11.6:1 (92.1% : 7.9%)	69,530

*A normalized product weight (common value divisible by all package formats) of 15.0 fl. oz. of product was used for Fossil Fuel, GHG and Water Consumption calculations.

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*For more information and methodologies of assessments, please visit **www.flexpack.org** or **www.glenroy.com** to download Glenroy's "A Streamlined Life Cycle Assessment Comparison for the Glenroy Premade STANDCAP Pouch in the Sauces and Personal Care Market versus Rigid Packaging Options" report and refer to pages 11-14.*