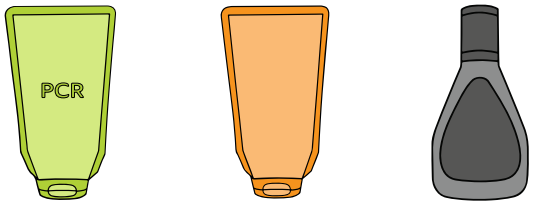
STREAMLINED LIFE CYCLE ASSESSMENT* SALAD DRESSING PACKAGING CASE STUDY

SALAD DRESSING PACKAGE COMPARISON

Salad dressings come in a wide array of varieties and flavors, many of which are traditionally packaged in rigid PET bottles. For this Life Cycle Assessment study with a cradle-to-grave boundary, salad dressing in a PET bottle was compared to dressing in a premade STANDCAP Pouch, an eco-friendly inverted flexible pouch.



PCR STANDCAP | STANDCAP | PET BOTTLE

Water Consumption

Producing PET bottles is a water-intensive process that requires large amounts of fluid to cool the molds in the stretch blow molding manufacturing process. The premade STANDCAP Pouch format, which is formed by laminating multiple thin layers of film together, uses much less water **(-58.9%)** in its manufacturing process. The use of PCR further reduces water use **(-64.3%)**.

Greenhouse Gas Emissions

The premade PCR STANDCAP Pouch produces over half the GHG emissions **(-55.2%)** compared to the rigid bottle. This is because it takes double the amount of material to make each bottle in a stretch blow molding process that requires additional heat.

Fossil Fuel Consumption

When considering fossil fuel use, the premade STANDCAP Pouch uses just about half **(-45.2%)** the amount as the PET bottle, with an additional reduction **(-50.8%)** through the use of PCR. These reductions are largely driven by the amount of material used for packaging.

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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

PET BOTTLE

1.5x
amount of material ending up as municipal solid waste

High product-to-package ratio:

95.4% Product weight | **4.6%** Package weight

95.4% Product weight | **4.6%** Package weight

Low product-to-package ratio:ratio:

91.5% Product weight | **8.5%** Package weight

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

When considering how much material ends up in municipal solid waste, the premade STANDCAP Pouch results in far less material discarded **(-32.1%)**.

IMPLICATIONS

The premade STANDCAP Pouch has a number of sustainability benefits when compared to a PET bottle for packing and shipping salad dressing. These include lower fossil fuel and water use, GHG emissions, better product-to-package ratio 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 DRESSING)
PCR STANDCAP POUCH	1.93 **(-50.8%)**	.09451 **(-55.2%)**	26.69 **(-64.3%)**	20.7:1 **(95.4% : 4.6%)**	48,401 **(-32.1%)**
STANDARD STANDCAP POUCH	2.15 **(-45.2%)**	.100 **(-52.6%)**	30.78 **(-58.9%)**	20.7:1 **(95.4% : 4.6%)**	48,401 **(-32.1%)**
PET BOTTLE	3.92	.211	74.79	10.8:1 (91.5% : 8.5%)	71,223

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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 31-34.*