



REFILL POUCH **SUSTAINABILITY FACTS**

A leading solution to achieve sustainability goals

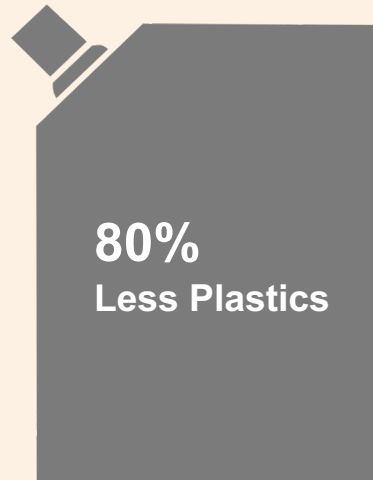


THINK BEYOND PACKAGING



Refill Pouch Sustainability Facts Summary

Sustainable Packaging Solution



Fact 1: Small Change, Big Impact

Flexible pouch uses significantly less materials by up to **75-85%** compared to rigid packaging.

If you have 50k units, you can save **3 tons** of plastics by switching to a flexible pouch.*



*Internal measurement



Fact 2: Less Emissions

A flexible pouch reduce **70%** reduction in greenhouse gas (GHG) emissions than a HDPE Canister.

A flexible pouch has the **least amount** of total GHG emissions during production.

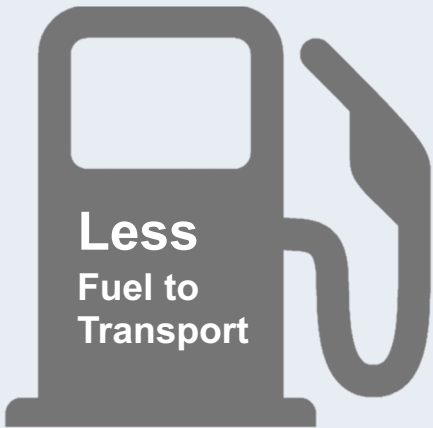


Manufacturing contributes significant amount of the total GHG emissions for packaging.



Refill Pouch Sustainability Facts Summary

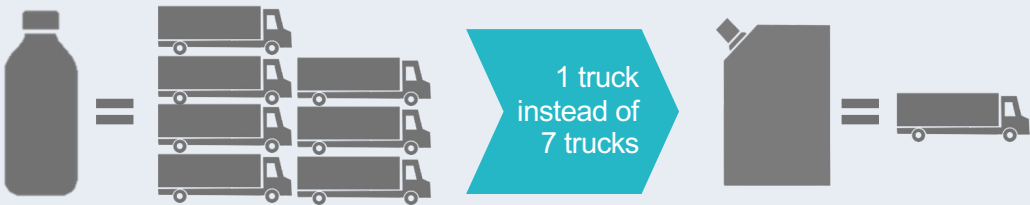
Sustainable Packaging Solution



Fact 3: Ship More Packaging

Flexible pouch requires fewer trucks and pallets, resulting in overall **less fuel** to transport.

You can fit **7 times more** empty pouches than bottles that means pouches require 1 truck to ship 7 trucks worth of bottles.*



*Internal measurement



Fact 4: Overall, Less Impact

According to the Life Cycle Assessment (LCA), flexible pouches have **less environmental impact**.

According to the LCA, refill pouch with a bottle has lower environmental impacts than using just rigid packaging.





Refill Pouch Sustainability Facts

Fact 1: Significant Plastic Reduction



What if scenario with facial cleansers



304 million units* of facial cleansers are
sold in one year in the United States
= **36k tons of plastics**



What if, we switch **just a half** of the bottles to refill pouches...

We can remove **120 million plastic
bottles of facial cleaners each year**

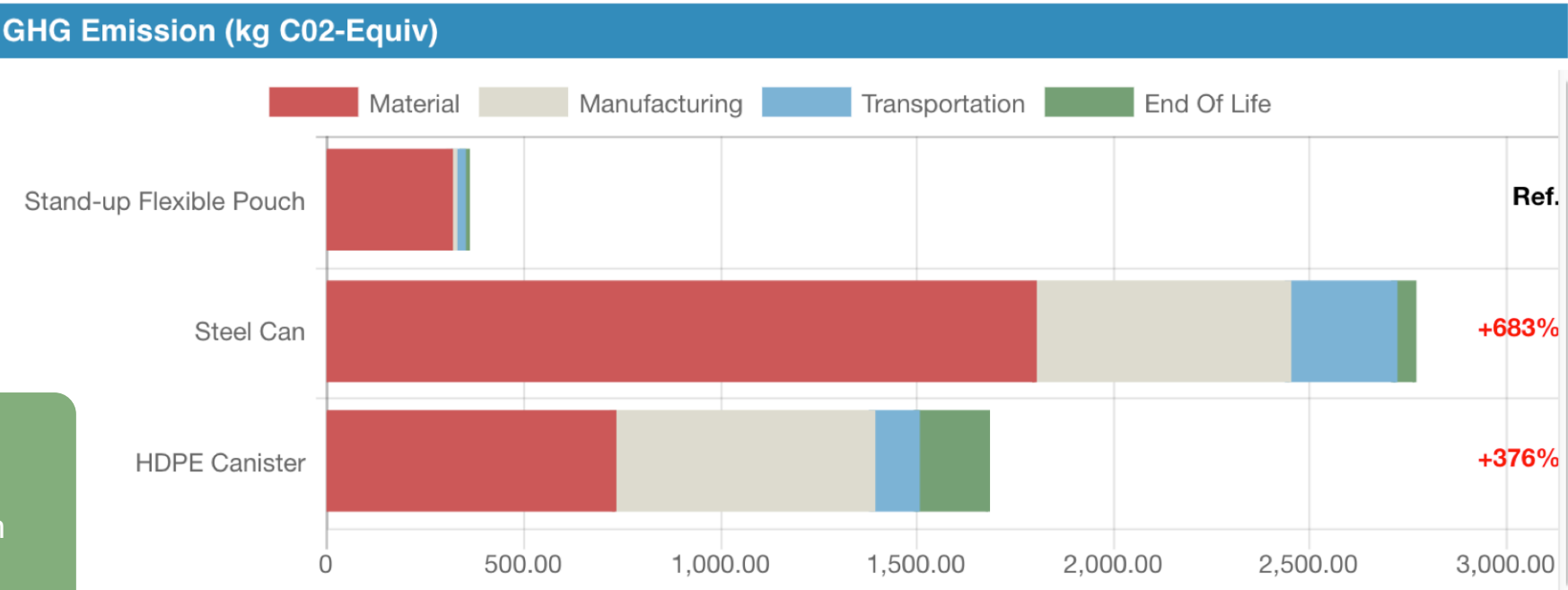
*Source: www.statista.com (sold units are in 2020)
Assumption: all facial cleansers are sold in bottles with average weight of 120g
One refill pouch weights 25g



Refill Pouch Sustainability Facts

Fact 2: GHG emissions

PTIS 2018 report for FPA | A Holistic View of the Role of Flexible Packaging in a Sustainable World



The GHG emissions of Stand-Up Flexible Pouch is **significantly lower than** Steel Can or HDPE Canister.



Refill Pouch Sustainability Facts

Fact 2: GHG emissions



McKinsey & Company July 2022 report | Climate Impact of Plastics



Refilling a glass bottle 15-20 times
with refill pouches results in

-25%

GHG emissions
than using
15-20 HDPE bottles

Source: McKinsey, Climate impact of plastics July 2022



Refill Pouch Sustainability Facts

Fact 3: Fuel Consumption & Product-to-Package Ratio

Flexible Packaging Association Fact Sheet | Fast Facts Third Edition

Examples of beverage packaging ^(1,4,5)

Package Type	Beverage Weight	Package Weight	Product to Package Ratio	*MSW Landfill per 100 g Product	Energy Consumed MJ/8 oz	Emissions kg CO ₂ e /8 oz
Glass Bottle & Metal Cap	8 oz (236 g)	198.4 g	1:1	54.5 g	3.36	0.29
Plastic PET Bottle & Cap	8 oz (236 g)	22.7 g	10:1	6.0 g	3.0	0.18
Aluminum Can	8 oz (236 g)	11.3 g	21:1	2.4 g	0.99	0.08
Flexible Standup Pouch	6.75 oz (199 g)	5.7 g	35:1	2.8 g	0.45	0.02

* recycling rates factored

Source: FPA Fast Fact Third Edition

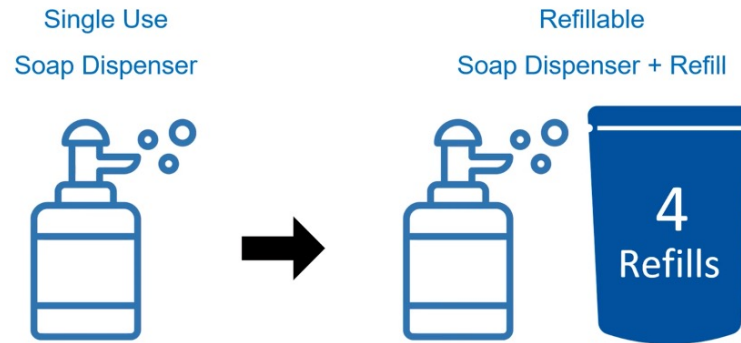
The **weight** of a flexible Pouch is the **least** among different types of packaging, but the **highest product-to-packaging ratio**.



Refill Pouch Sustainability Facts

Fact 4: Life Cycle Assessment (LCA)

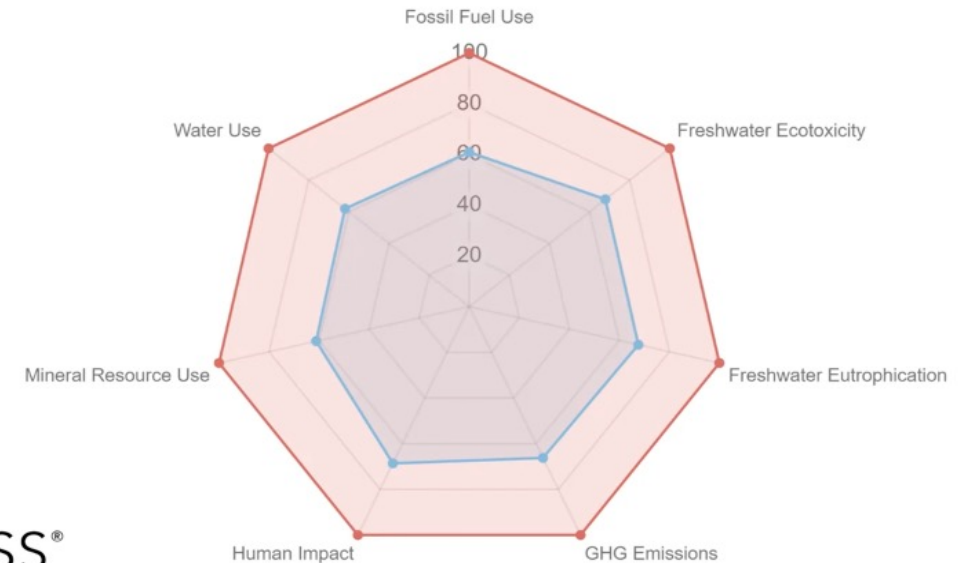
TRAYAK Presentation | SPC Reusable Packaging Collaborative Meeting August 2022



The LCA of **using rigid packaging together with refill pouches** has lower environmental impact than using just rigid packaging.

Comparing Single Use and Refill Scenario

Single Use Dispenser
Refillable Dispenser + 1 Refill Pouch



LCA is a consumer (such as numbers of cycle) and location dependent.



Refill Pouch Sustainability Facts

Reality of Recycling



EPA | Recycling and Composting Trends

Recycling and composting as a percentage of generation

	1960	1970	1980	1990	2000	2005	2010	2015	2017	2018
Paper and Paperboard	17%	15%	21%	28%	43%	50%	63%	67%	66%	68%
Glass	2%	1%	5%	20%	23%	21%	27%	28%	25%	25%
Plastics	Neg.	Neg.	<1%	2%	6%	6%	8%	9%	9%	9%
Yard Trimmings	Neg.	Neg.	Neg.	12%	52%	62%	58%	61%	69%	63%
Lead-acid Batteries	Neg.	76%	70%	97%	93%	96%	99%	99%	99%	99%

Source: EPA

Even refill pouches don't get recycled, reduce plastics use significantly

Reduce

is the fastest way to improve sustainability

It is predicted that 20% of organizations with sustainable packaging goals will shift their focus from recycling and eliminating plastics to **reducing the carbon footprint of their packaging** by 2026.



Refill Pouch Sustainability Facts

Success Story



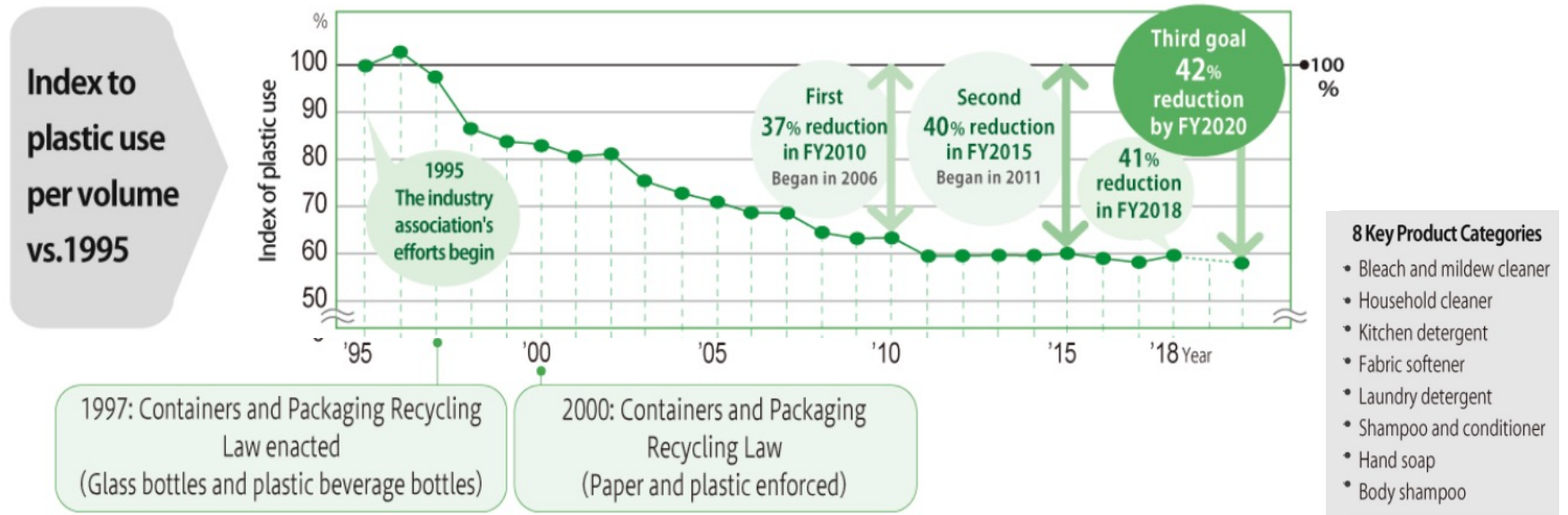
Japan Soap and Detergent Association | Voluntary Reduction in Plastic Use

Refill pouches contributed to reduce plastic usage per product volume by

-43%

compared from 1995 to 2021

Use of Plastic Containers/Packaging from 1995 to 2018 and Trends in Reduction



Source: Japan Soap and Detergent Association

70-80% of store shelves for the home and personal care products in Japan are refill pouches.



Refill Pouch Sustainability Facts

Success Story



What we see in the Japanese Market



[Click HERE to Watch:](#)
[Refill pouches at the](#)
[grocery store in Japan](#)