

A woman with her hair in a bun, wearing a pink sweater, is looking at her smartphone in a grocery store aisle. The aisle is filled with shelves of water bottles. The image has a blue tint.

PET PACKAGING LIFE CYCLE ANALYSIS

Introduction to NAPCOR

The National Association for PET Container Resources (NAPCOR), founded in 1987, is the trade association for the PET (polyethylene terephthalate) plastic packaging industry in the United States, Canada and Mexico.

Our Mission:

- To promote the introduction and use of PET packaging.
- To protect PET packaging and overcome hurdles to its successful introduction, use and recycling.
- To articulate and communicate the environmental sustainability attributes of PET packaging.

Choosing the right package comes down to three things:

Environmental impact

Ability to preserve contents

Convenience

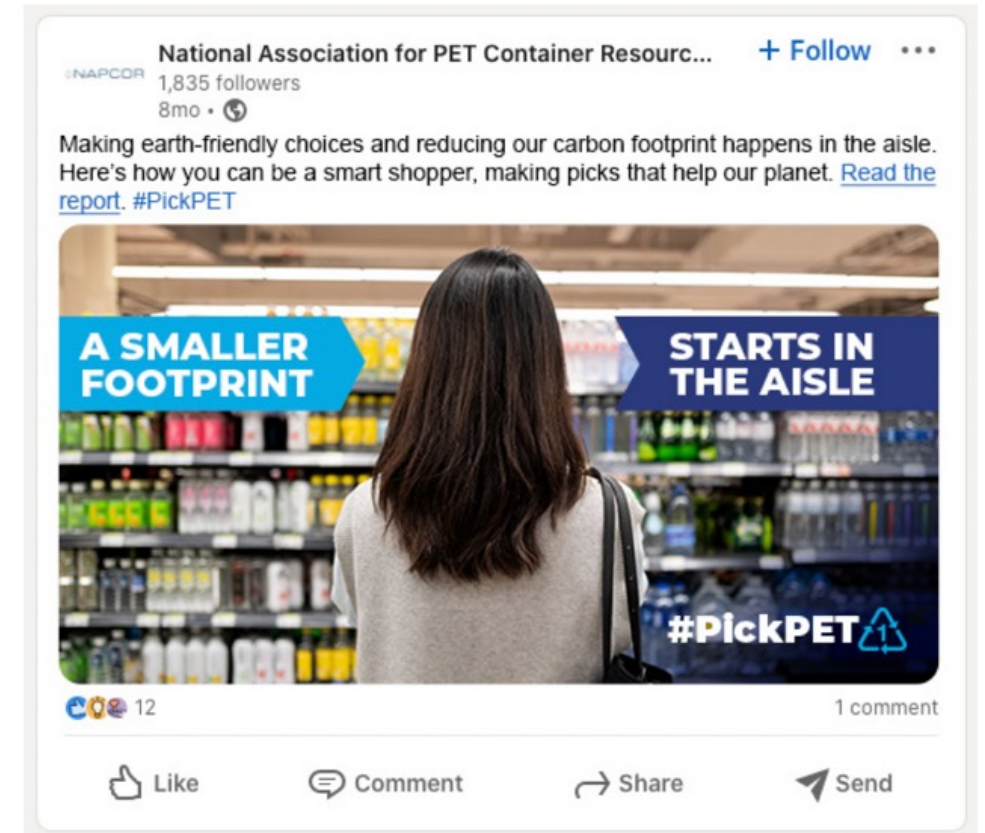


Why Choose PET?

PET bottles are the widely preferred choice because they deliver on all three!

Science shows choosing a PET bottle is a sustainable choice for the environment.

PET uses significantly less energy and creates fewer emissions than alternatives.



ENVIRONMENTAL IMPACT OF PET PACKAGING

- Benefits of using postconsumer recycled content
- How does PET stack up in a comparison of beverage containers



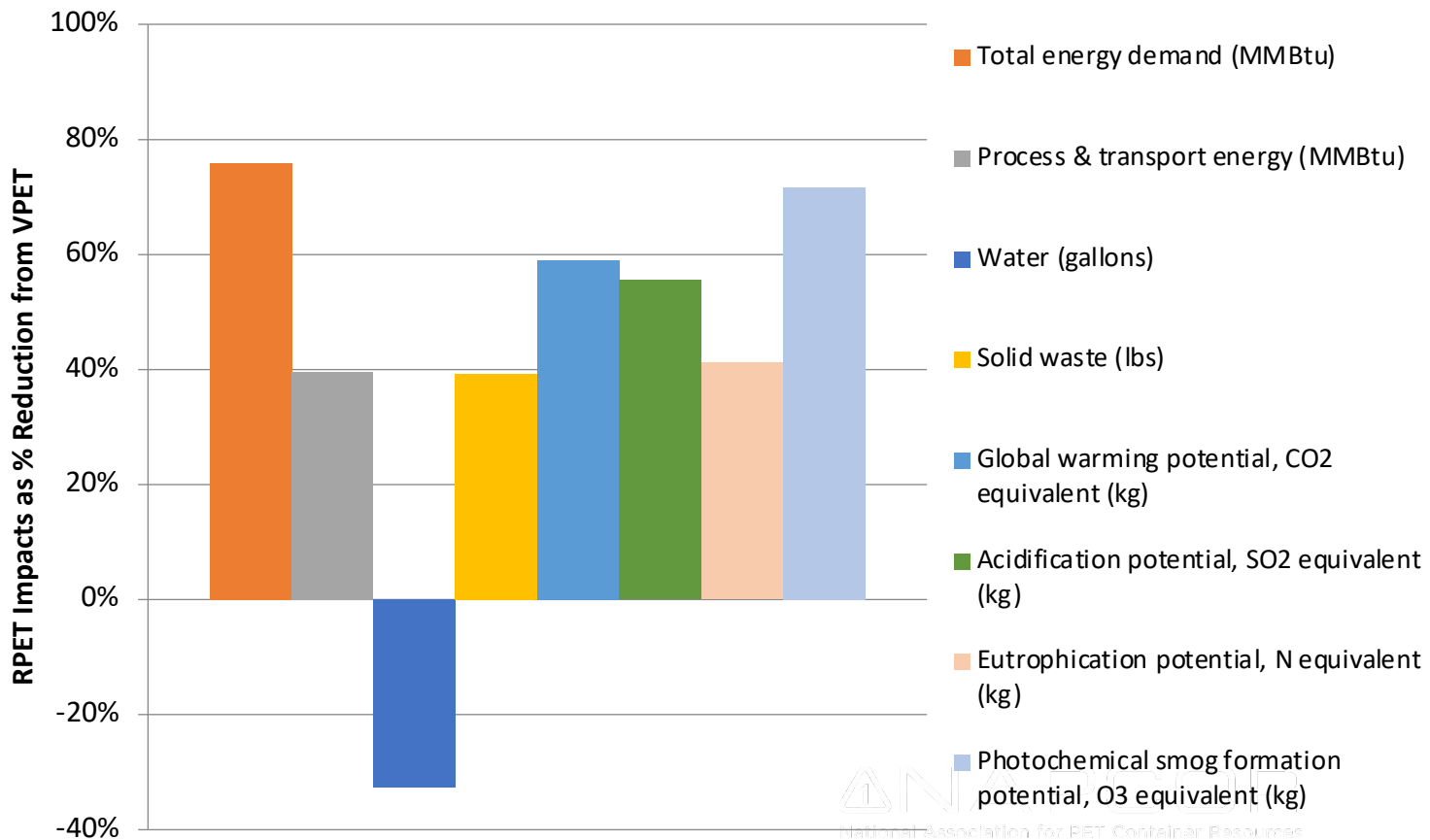
The environmental benefits of using postconsumer PET

Benefits of PET Recycling

Life cycle analyses have examined energy requirements and environmental impacts of producing both recycled PET (RPET) and new, virgin material (VPET).

Figures are determined using the cut-off method, which assigns all virgin material production burdens to the first use of the material, and all burdens for material recovery, transport, separation and sorting, and reprocessing are assigned to the recycled material.

Environmental Savings - Recycled PET vs. Virgin PET



Each unit of recycled PET that replaces virgin results in:

40%

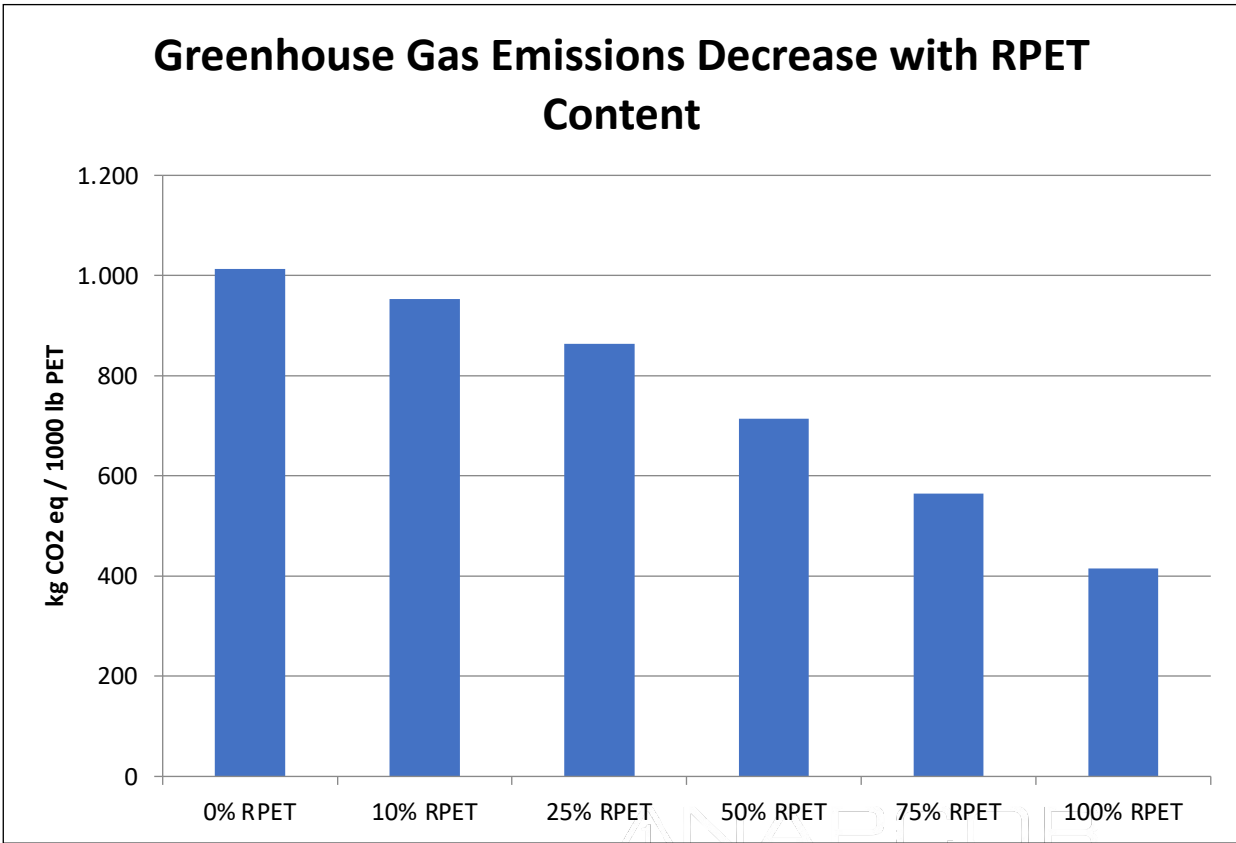
Less process and transport (expended) energy

75%

Lower total energy demand

60%

Reduction in greenhouse gas emissions



Each year, equivalent environmental savings from RPET usage in products in the US and Canada add up to:



Electricity to power more than 760,000 US homes



Removing more than 200,000 cars from the road

Beverage container system comparison



**A SMALLER
FOOTPRINT**

**STARTS IN
THE AISLE**

Background & Scope

NAPCOR partnered with Franklin Associates to explore the environmental impacts of beverage bottles and cans in the U.S. The result is an LCA report. It provides fact-based, science-driven evidence.

Our study is an update to 2009's which compared PET, glass, and aluminum CSD container systems.

Includes more recent LCI's on virgin and recycled PET resin supply chains.

New NAPCOR study considers multiple scenarios for each packaging format, as well as bottled water.

All modeling based on predominant, non-refillable beverage packaging.

The primary beverage container, as well as secondary (multipack, if applicable) and tertiary packaging were included in the evaluation of each container system.



**What you
put in your
cart matters.**

2022 VS. 2009 20 OZ PET CSD BOTTLE

9% lighter weight

25% less energy consumed

20oz



19% less greenhouse gas emissions

31% less solid waste

CONTAINER SYSTEMS COMPARED

	Size (oz)	Beverage	Recycled Content	Recycling Rate
PET Bottles	16.9	Water	10%	29.1%
	20	CSD		
Aluminum Cans	12	CSD or water	73%	50.4%
Glass Bottles	12	CSD	38%	39.6%

When compared with glass and aluminum, PET plastic delivers **significant environmental benefits** across several key categories.



Energy Consumption



Water Consumption



Smog



Greenhouse Gas Emissions



Acid Rain



Eutrophication Potential

KEY FINDINGS

- PET plastic bottles produce significantly **fewer greenhouse gas emissions** than glass and aluminum.
- PET requires **less energy** to produce than glass and aluminum counterparts.
- Beyond PET's beneficial reduction to global warming, PET plastic bottles also **create less solid waste, use less water and generate fewer emissions** during production.
- The LCA report confirms **PET plastic bottles are better for the environment** than aluminum cans or glass bottles.

KEY FINDINGS

- PET beverage container systems, accounting for the largest share of carbonated soft drink and bottled still water sales in the U.S., compare favorably with the predominant aluminum and glass container systems for these applications.
- Glass bottles have the highest negative impact for most environmental metrics evaluated, followed by aluminum cans, then PET bottles
- **All comparisons of PET carbonated soft drink bottles with glass bottles and all comparisons of PET water bottles with aluminum cans show that PET is better for the environment. Period**



THANK YOU!

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ANAPCOR
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