

# A HOLISTIC VIEW OF THE ROLE OF FLEXIBLE PACKAGING IN A SUSTAINABLE WORLD

The Flexible Packaging Association report provides a holistic view on the sustainability benefits flexible packaging offers and provides foresight into future sustainability implications for the packaging industry.

## LIFE CYCLE ADVANTAGES OF FLEXIBLE PACKAGING

The report highlights six Life Cycle Assessment (LCA) case studies using EcolImpact-COMPASS® LCA software, which allows for quick life cycle comparisons between different package formats. Results from the case studies show that flexible packaging, when compared to other package formats, has preferable environmental attributes for carbon impact, fossil fuel usage, water usage, product-to-package ratio, as well as material to landfill.



### CARBON IMPACT

A rigid PET container for laundry detergent pods emits **+726%** more greenhouse gases than a flexible pouch with zipper



### WATER USAGE

A HDPE bottle for motor oil packaging consumes **+513%** more water than a flexible pouch with fitment



### FOSSIL FUEL USAGE

A rigid pail for cat litter packaging consumes **+1,429%** more fossil fuel than a flexible bag



### MATERIAL TO LANDFILL

**+31%** more thermoformed tubs for baby food packaging ends up in a landfill compared to a flexible pouch with fitment



### WATER USAGE

A steel can for packaging coffee consumes **+1,605%** more water than a flexible pouch



### PRODUCT-TO-PACKAGE RATIO

A single serve juice flexible pouch efficiently uses packaging with a product-to-package ratio of **+97%**

## FLEXIBLE PACKAGING SUSTAINABILITY BENEFITS

Flexible packaging offers a number of sustainability benefits throughout the entire life cycle of the package when compared to other package formats including:



MATERIAL/RESOURCE EFFICIENCY



LIGHTWEIGHT/SOURCE REDUCTION



FOOD SHELF LIFE EXTENSION



HIGH PRODUCT-TO-PACKAGE RATIO



TRANSPORTATION BENEFITS DUE TO INBOUND FORMAT AND LIGHTWEIGHT NATURE



REDUCED MATERIALS TO LANDFILL



BENEFICIAL LIFE CYCLE METRICS

## KEY DRIVERS SHAPING THE FUTURE OF PACKAGING PROGRAMS



**EMERGING MARKETS:** development of mobile and global middle class in fast-growth economies



**RETAIL IMPACTS:** increased connections facilitate dialogue and interactions among retailers and consumers



**HOLISTIC DESIGN THINKING:** design for functional and emotional needs to differentiate among competitors



**SUSTAINABILITY:** complex technologies to address sustainability beyond recycling and material reduction



**CONSUMER/SOCIAL MEDIA/PERSONAL TECHNOLOGY:** instant feedback from consumers through social media and online shopping



**SCIENCE AND TECHNOLOGY:** smart packaging innovations enable personalization and address issues like food waste



**LAWS AND REGULATIONS:** legislation influences the design of packaging



**ANTICIPATORY ISSUES AND DISRUPTORS:** collection of data and research to anticipate issues or changes in the industry

## HOW THE INDUSTRY IS EVOLVING TO ADDRESS FLEXIBLE PACKAGING CHALLENGES

### INDUSTRY CHALLENGES

Consumer participation in material collection and recycling

Lack of end-of-life alternatives and recycling options for multi-material laminated packaging

Social concerns provoking legislation for marine debris and single-use packaging

### INDUSTRY SOLUTIONS

Educate consumers on which materials can be recycled and drive collection and recycling of flexible materials through collaborations (Wrap Recycling Action Program & How2Recycle labels)

Enhance processing technologies and auto-sortation of multi-material flexibles (waste to energy, Materials Recovery For the Future)

Promote development of waste management infrastructure to address marine debris and litter issues. Additionally, investigate new materials including compostable or bio-based structures.