Beverage Packages: Form Follows Function

The typical American drinks around 175 gallons of beverages each year, or about half a gallon every day. This consumption occurs at home, while travelling, at work or school, in restaurants, at sporting and cultural events, in health care facilities, while camping or hiking, etc. Many beverages are consumed directly from containers such as plastic jugs, aluminum and steel cans, glass bottles, gable top & aseptic cartons, and multi-material pouches.

The wide array of beverage packaging types, sizes and designs are made from many different materials. The reason for this variety relates directly to the types of beverages we drink, where we drink them, and how they are produced. To deliver maximum refreshment with minimal product and packaging waste, usage occasions require very specific designs and material choices.

For example, the fruit juice packed in a child’s lunch box might come in a single serve aseptic carton (juice box), aluminum can, flexible pouch, or plastic bottle. At home, however, parents would probably serve the same juice to their family from a larger size metal can, plastic bottle, or glass jug. And if looking to save money or storage space, they might use a frozen concentrate in a paperboard and metal can. (See graphics to the left.)

Thus, the packaging is designed to fit the specific situation in which the product inside will be consumed. This usage-specific approach optimizes serving size, shelf life, product safety, cost per serving, and even helps to reduce waste.

What About Sustainability?

When it comes to preventing spoilage, spillage, and waste, beverage packaging plays important roles in the ongoing effort to reduce negative economic and environmental impact.

Job 1: Product Protection

Lifecycle studies consistently draw the same conclusion: From an economic and environmental standpoint, the most important role of packaging is damage protection. The reason is straightforward: When looked at from a larger systems perspective, the product generally accounts for at least 90% of the total environmental impact and the package for the remaining 10% (or less).
Job 2: Freshness, Portion Control, Shelf Life

At home, buying in larger sizes generally saves money, especially for beverages that are consumed quickly. Smaller sizes also reduce waste by ensuring product freshness and portion control. (For reference, the USDA estimates that 45% of milk is thrown away.\(^3\) Two thirds of this waste is due to spoilage and spillage. The remaining third is due to serving more than can be consumed.\(^4\))

Examples: Smaller size cans, bottles, boxes and pouches reduce product waste through portion control and spill reduction. Shelf stable aseptic cartons and bag-in-box packages save energy and/or extend shelf life for time-sensitive products like milk or wine.

Job 3: Packaging Waste Minimization

Aluminum and steel beverage containers are among the top recycled items in EPA surveys.\(^5\) Paperboard, plastic, and aluminum containers offer significant source reduction value. Thus, the various materials used in beverage packaging provide substantial environmental benefits in line with the EPA’s waste management hierarchy:\(^6\)

**Source Reduction & Reuse** - Packaging made from plastics, paper, and foil, separately or in combination, provides significant source reduction benefits. Many glass containers are reusable, as well as recyclable. Also, soft drinks now come in plastic bottles made from renewable resources such as sugar cane.\(^7\)

**Recycling** - Beverage package recovery (recycling) rates are among the highest listed by the EPA, including steel cans (71%); aluminum cans (55%); glass bottles (34%); PET (31%) and HDPE (28%) plastic bottles.\(^8\)

**Energy Recovery** - Energy recovery is focused on rigid and flexible plastic and paper containers, as they have significant energy value. Municipal interest in this option is growing.\(^9\)
To Summarize...

By providing product and spillage protection, freshness, and portion control; a little bit of packaging delivers maximum beverage refreshment with minimum product and package waste. Further, the various paperboard, metal, glass, and plastic materials used in beverage packaging provide significant economic and environmental value through high levels of source reduction and recycling, and growing levels of renewable resource use and energy recovery.

Easy Ways for Consumers to Help

• **Buy for the Occasion.** Purchase larger sizes for home use. Since larger beverage containers are made from metal, glass, and recyclable plastics such as PET and HDPE, they should be easy to recycle in your community.

• **Get the latest information on what’s recyclable from municipal government or waste haulers.** Besides metal, glass and plastic beverage containers, your community may be able to recycle gable top milk cartons and juice boxes.

• **Learn What’s Recyclable at School and Work.** More schools, offices, universities, and hospitals are practicing recycling. Knowing what can be recycled, and where, can help with single serve beverage purchasing decisions.

• **Purchase reusable containers.** Do family members regularly drink water, juice, coffee, or tea? Metal, plastic and glass reusable bottles and hot/cold beverage holders are great for away-from-home use, especially in the car and at work.