

# Appendices A-H

## Needed State Report: An Analysis of Actions and Investments to Achieve Source Reduction

### A Plastic Pollution Prevention and Packaging Producer Responsibility Act Needs Assessment Report

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**February 2026**

**Data and information used in this report provided as part of contract number DRR24062.**

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# Appendix A. Detailed Adapted Source Reduction Baseline Assumptions and Additional Methodological Points

Due to rounding, the totals shown in the appendices may vary slightly or may not add up to 100%.

Table A-1: Function Cluster Definitions

Function Cluster	Description
<b>Baby Care</b>	Products used for infant hygiene and grooming, such as baby lotion, wipes, and shampoo. Does not include baby formula.
<b>Menstrual Hygiene</b>	Items for menstrual and personal care, including pads, tampons, and liners.
<b>Fragrances</b>	Products for scent and personal fragrance, such as perfumes and body sprays.
<b>Personal Bathing Products</b>	Hair and body cleansing and conditioning such as shampoo, conditioner, body wash and soap bars.
<b>All Other Hair Products</b>	Styling and treatment products like gels, sprays, and hair masks.
<b>Make-Up</b>	Cosmetic products including lipstick, mascara, and foundation.
<b>Grooming Products</b>	Grooming products, such as shaving cream, aftershave, and beard care.
<b>Oral Hygiene - Excluding Mouthwash</b>	Products for dental care like toothpaste and floss.
<b>Oral Hygiene - Mouthwash</b>	Liquid rinses for oral freshness and hygiene.
<b>Anti-Perspirants and Deodorants</b>	Products to reduce perspiration and control body odor.
<b>Skincare</b>	Products for facial and body skin health, such as moisturizers and serums.
<b>Suncare</b>	Products for sun protection and after-sun care, like sunscreen and lotions.
<b>Bakery and Cereals</b>	Foods such as bread, pastries, and breakfast cereals.
<b>Beans and Pulses</b>	Legume-based foods including beans, lentils, and chickpeas.

<b>Function Cluster</b>	<b>Description</b>
<b>Confectionery</b>	Sweet treats like chocolates, candies, and gummies.
<b>All Other Dairy/Soy Products</b>	Dairy and plant-based items such as yogurt and cream alternatives.
<b>Milk - Liquid Dairy and Soy Milk Products</b>	Beverages including cow's milk and soy milk.
<b>Dried Food</b>	Shelf-stable dry foods like rice, grains, and powdered mixes.
<b>Fish and Seafood</b>	Fresh, or processed fish and shellfish products.
<b>Fruit and Vegetables</b>	Fresh produce.
<b>Ice Cream</b>	Frozen desserts including ice cream and gelato.
<b>Meat</b>	Fresh or processed animal protein products.
<b>Meat Substitutes</b>	Plant-based alternatives to meat, such as tofu or soy patties.
<b>Solid Fats</b>	Products like margarine and butter.
<b>Liquid Oils</b>	Cooking oils for frying, baking, and seasoning.
<b>Other Frozen Foods</b>	Frozen items such as vegetables, snacks, and ready meals.
<b>Pasta and Noodles</b>	Dry or instant pasta and noodle products.
<b>Prepared Meals</b>	Ready-to-eat or heat-and-serve meal options.
<b>Savory and Deli Foods</b>	Items like sliced meats, cheeses, and deli salads.
<b>Savory Snacks</b>	Snack foods such as chips, crackers, and nuts.
<b>All Other Seasonings, Dressings, and Sauces</b>	Flavor enhancers like sauces, dressings, and marinades.
<b>Herbs, Spices and Seasonings</b>	Dried herbs and spices for cooking.
<b>Soups</b>	Ready-to-eat or powdered soup products.
<b>Nut-Based Spreads</b>	Spreads made from nuts, such as peanut butter.
<b>Other Syrups and Spreads</b>	Sweet or savory spreads like honey, jam, and syrups.

<b>Function Cluster</b>	<b>Description</b>
<b>Other Household Care Products</b>	Cleaning and maintenance products for household use.
<b>Dishwashing and Laundry Products</b>	Products for washing dishes and laundering clothes.
<b>Dry Pet Food</b>	Kibble for cats, dogs and other pets.
<b>Moist Pet Food</b>	Wet food for cats, dogs and other pets.
<b>Other Pet Care</b>	Products for pet grooming, health, and accessories.
<b>Tobacco and Tobacco Products</b>	Cigarettes, cigars, and other tobacco items.
<b>Durable Goods</b>	Goods bought infrequently and intended to last an extended period (i.e., over a year). Includes electronics, furniture, toys and other durable items.

**Table A-2: Format Cluster Definitions**

<b>Format Cluster</b>	<b>Description</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	Thin film for basic containment; e.g., pack of tissues, toilet roll, hardware collation.
<b>Flexible Bag - Low Barrier (Food)</b>	Basic bag for short-shelf-life food; e.g., frozen fruit or vegetables, bakery.
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	Moderate protection against dust/moisture; e.g., wipes.
<b>Flexible Bag - Medium Barrier (Food)</b>	Protects dry foods from oxygen/moisture; e.g., single portion confectionary or snacks, dry pet food.
<b>Flexible Bag - High Barrier (Food)</b>	Multi-layer film for strong preservation; e.g., cooking sauces, pet food sachets, large fresh meat roll, ground beef vacuum packed.
<b>Tray and Film - Low Barrier (Nonfood)</b>	Simple tray for display; e.g., razors, large durable goods (tools).
<b>Tray and Film - Low Barrier (Food)</b>	Basic tray for fresh food; e.g., fruits, large fresh meat collation.
<b>Tray and Film - High Barrier (Food)</b>	Vacuum/Modified Atmosphere Packaging (MAP) tray for extended freshness; e.g., single portion fruit cups, individual prepared meal (family/party size/lasagna).
<b>Tub and Lid - Light Weight (Nonfood)</b>	Thin tub for light goods; e.g., laundry pods, dishwasher tabs.
<b>Tub and Lid - Light Weight (Food)</b>	Tub for spreads/dairy; e.g., yogurt, cream cheese, ice cream.
<b>Tub and Lid - Higher Weight (Nonfood)</b>	Durable tub for heavy-duty products; e.g., hair mask, cream, hardware collation (e.g., nails).
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	Basic jar for dry goods; e.g., powdered drinks, peanut butter or jam jars, confectionary tub.
<b>Plastic Jar and Lid - High Preservation (Food)</b>	Thick jar for sensitive foods; e.g., sauces, pickles.
<b>Injection Molded Pail/Can</b>	Injection-molded pail for bulk items used in a variety of applications including condiments for restaurants.

<b>Format Cluster</b>	<b>Description</b>
<b>Clamshell (Nonfood)</b>	Hinged shell for visibility; e.g., pack of screws, electronics.
<b>Clamshell (Food)</b>	Clear shell for fresh food; e.g., fresh fruit or vegetables trays.
<b>Bottle and Cap (Nonfood)</b>	Standard bottle for liquids; e.g., shower gel, all-purpose cleaner.
<b>Bottle and Cap (Food)</b>	Bottle for beverages/oils; e.g., vinegar, cooking oil.
<b>Bottle and Cap - High Function (Nonfood)</b>	Specialty bottle for chemicals; e.g., dish soap, cleanser, laundry detergent bottle.
<b>Bottle and Cap - High Preservation (Food)</b>	For carbonated/sensitive drinks and certain sauces; e.g., salad dressing, ketchup, mayo, bulk sauce.
<b>Bottle and Pump/Trigger (Nonfood)</b>	Dispensing bottle; e.g., hand wash, hand sanitizer, cleaning spray, moisturizing cream.
<b>Tubes and Cap (Nonfood)</b>	Flexible tube for viscous products; e.g., toothpastes, moisturizing cream.
<b>Rigid Applicators (Nonfood)</b>	Precision dispenser; e.g., lip balm, deodorant, calk.
<b>Rigid Case (Nonfood)</b>	Protective case; e.g., makeup pallet, first-aid kit.
<b>Impact Resistant Packaging (Nonfood)</b>	Shock-absorbing packaging; e.g., glassware, instruments.
<b>Non-FMCG Primary/Secondary - Rigid</b>	Rigid plastic formats e.g., boxes for dolls.
<b>Non-FMCG Primary/Secondary - Flexible</b>	Film plastic formats e.g., plastic bags used to package laptops.
<b>Food Service Ware - Utensils</b>	Disposable eating tools; e.g., forks, spoons.
<b>Food Service Ware - Containers</b>	Take-out boxes/trays; e.g., meals, salads.
<b>Food Service Ware - Cups</b>	Cups for drinks; e.g., coffee, soda.
<b>Food Service Ware - Lids</b>	Covers for cups/containers; e.g., lids for coffee cups.
<b>Food Service Ware - Films and Flexibles</b>	Wraps for food service; e.g., sandwich wrap.

<b>Format Cluster</b>	<b>Description</b>
<b>B2B Transport Packaging</b>	Packaging for shipping goods; e.g., pallet wraps.
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	Hybrid packs with plastic components; e.g., paper cartons with plastic lid. Also referred to as “Plastic Covered Material in Nonplastic Material Classes”
<b>B2C E-Commerce Transport Packaging</b>	Protective packaging for deliveries; e.g., padded plastic mailers.

**Table A-3: Categorizing GlobalData Packaging Sales Data Categories into Function Clusters**

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Baby Care	Baby Food	Baby Cereals	Baby Care
Baby Care	Baby Food	Baby Finger Foods	Baby Care
Baby Care	Baby Food	Baby Fruit and Vegetable Juice Drinks	Baby Care
Baby Care	Baby Food	Baby Teas	Baby Care
Baby Care	Baby Food	Baby Wet Ambient Meals	Baby Care
Baby Care	Baby Food	Other Baby Wet Meals/Others	Baby Care
Baby Care	Baby Food	Starter/First Stage	Baby Care
Baby Care	Baby Food	Toddler Milk/Third Stage/GUM (Growing Up Milk)	Baby Care
Baby Care	Baby Personal Care	Baby Diapers	Baby Care
Baby Care	Baby Personal Care	Bath	Baby Care
Baby Care	Baby Personal Care	Lotion	Baby Care
Baby Care	Baby Personal Care	Oil	Baby Care
Baby Care	Baby Personal Care	Powder	Baby Care
Baby Care	Baby Personal Care	Shampoo	Baby Care
Baby Care	Baby Personal Care	Training	Baby Care
Baby Care	Baby Personal Care	Wipes (Baby Toiletries)	Baby Care
Cosmetics and Toiletries	Feminine Hygiene	Internal Cleansers and Sprays	Menstrual Hygiene

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Cosmetics and Toiletries	Feminine Hygiene	Pantliners and Shields	Menstrual Hygiene
Cosmetics and Toiletries	Feminine Hygiene	Sanitary Pads	Menstrual Hygiene
Cosmetics and Toiletries	Feminine Hygiene	Women's Disposable Razors and Blades	Menstrual Hygiene
Cosmetics and Toiletries	Fragrances	Mass Female Fragrances	Fragrances
Cosmetics and Toiletries	Fragrances	Mass Male Fragrances	Fragrances
Cosmetics and Toiletries	Fragrances	Mass Unisex Fragrances	Fragrances
Cosmetics and Toiletries	Fragrances	Premium Male Fragrances	Fragrances
Cosmetics and Toiletries	Haircare	2-in-1	All Other Hair Products
Cosmetics and Toiletries	Haircare	Anti-Dandruff	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Bleachers	All Other Hair Products
Cosmetics and Toiletries	Haircare	Hair Gel	All Other Hair Products
Cosmetics and Toiletries	Haircare	Hair Loss Treatments	All Other Hair Products
Cosmetics and Toiletries	Haircare	Highlights/Lowlights	All Other Hair Products
Cosmetics and Toiletries	Haircare	Intensive Conditioner	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Kids Shampoo	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Medicated Shampoo	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Other Conditioner	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Other Hair Colorants	All Other Hair Products
Cosmetics and Toiletries	Haircare	Other Shampoo	Personal Bathing Products

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Cosmetics and Toiletries	Haircare	Other Styling Agents	All Other Hair Products
Cosmetics and Toiletries	Haircare	Permanent Colorants	All Other Hair Products
Cosmetics and Toiletries	Haircare	Perms	All Other Hair Products
Cosmetics and Toiletries	Haircare	Relaxers	All Other Hair Products
Cosmetics and Toiletries	Haircare	Semi-Permanent Colorants	All Other Hair Products
Cosmetics and Toiletries	Haircare	Standard Shampoo	Personal Bathing Products
Cosmetics and Toiletries	Haircare	Styling Creams and Waxes	All Other Hair Products
Cosmetics and Toiletries	Haircare	Styling Spray	All Other Hair Products
Cosmetics and Toiletries	Haircare	Tone-On-Tone Colorants	All Other Hair Products
Cosmetics and Toiletries	Haircare	Traditional Conditioner	All Other Hair Products
Cosmetics and Toiletries	Make-Up	Blusher	Make-Up
Cosmetics and Toiletries	Make-Up	Eyeliners	Make-Up
Cosmetics and Toiletries	Make-Up	Eyeshadow	Make-Up
Cosmetics and Toiletries	Make-Up	Face Powder	Make-Up
Cosmetics and Toiletries	Make-Up	Foundation	Make-Up
Cosmetics and Toiletries	Make-Up	Lip Gloss	Make-Up
Cosmetics and Toiletries	Make-Up	Lip Liner	Make-Up
Cosmetics and Toiletries	Make-Up	Lipstick	Make-Up
Cosmetics and Toiletries	Make-Up	Mascara	Make-Up

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Cosmetics and Toiletries	Make-Up	Other Eye Make-Up	Make-Up
Cosmetics and Toiletries	Make-Up	Other Face Make-Up	Make-Up
Cosmetics and Toiletries	Make-Up	Other Lip Make-Up	Make-Up
Cosmetics and Toiletries	Male Toiletries	Aftershaves and Colognes	Grooming Products
Cosmetics and Toiletries	Male Toiletries	Men's Disposable Razors and Blades	Grooming Products
Cosmetics and Toiletries	Male Toiletries	Post-Shave Cosmetics - Men's	Grooming Products
Cosmetics and Toiletries	Male Toiletries	Pre-Shave Cosmetics - Men's	Grooming Products
Cosmetics and Toiletries	Oral Hygiene	Bicarbonate of Soda Toothpaste	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Breath Fresheners (Non-Confectionery)	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Cosmetic Toothpaste	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Denture Cleansers	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Denture Fixatives	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Flossing Tape	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Manual Toothbrushes	Oral Hygiene - Excluding Mouthwash

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Cosmetics and Toiletries	Oral Hygiene	Other Denture Care Products	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Power Toothbrushes	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Standard Toothpaste	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Therapeutic Toothpaste	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Unwaxed Dental Floss	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Waxed Dental Floss	Oral Hygiene - Excluding Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Medicinal Mouthwash	Oral Hygiene - Mouthwash
Cosmetics and Toiletries	Oral Hygiene	Standard Mouthwash	Oral Hygiene - Mouthwash
Cosmetics and Toiletries	Personal Hygiene	Bar Soap	Personal Bathing Products
Cosmetics and Toiletries	Personal Hygiene	Body Spray	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Personal Hygiene	Liquid Bath Products	Personal Bathing Products
Cosmetics and Toiletries	Personal Hygiene	Liquid Soap	Personal Bathing Products
Cosmetics and Toiletries	Personal Hygiene	Other Bath Products	Personal Bathing Products
Cosmetics and Toiletries	Personal Hygiene	Shower Products	Personal Bathing Products

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Cosmetics and Toiletries	Personal Hygiene	Sticks and Solids	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Personal Hygiene	Deodorant Creams	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Personal Hygiene	Deodorant Gel	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Personal Hygiene	Deodorant Wipes	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Personal Hygiene	Roll-On Deodorants	Anti-Perspirants and Deodorants
Cosmetics and Toiletries	Skincare	Alphabet Cream	Skincare
Cosmetics and Toiletries	Skincare	Anti-Agers	Skincare
Cosmetics and Toiletries	Skincare	Chemical Depilatories	Skincare
Cosmetics and Toiletries	Skincare	Cleansing Wipes	Skincare
Cosmetics and Toiletries	Skincare	Exfoliating Scrubs	Skincare
Cosmetics and Toiletries	Skincare	Eye Make-Up Remover	Skincare
Cosmetics and Toiletries	Skincare	Face Make-Up Remover	Skincare
Cosmetics and Toiletries	Skincare	Face Mask	Skincare
Cosmetics and Toiletries	Skincare	Facial Creams and Gels	Skincare
Cosmetics and Toiletries	Skincare	Fade Cream	Skincare
Cosmetics and Toiletries	Skincare	Firming Body Care	Skincare

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
<b>Cosmetics and Toiletries</b>	Skincare	General Purpose Body Care	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Lip Care	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Mass Hand Care	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Nail Varnish Remover	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Night Cream	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Other Moisturizers	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Premium Hand Care	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Toner	Skincare
<b>Cosmetics and Toiletries</b>	Skincare	Wax Strips and Wax	Skincare
<b>Cosmetics and Toiletries</b>	Suncare	Mass After-Sun	Suncare
<b>Cosmetics and Toiletries</b>	Suncare	Mass Self-Tan	Suncare
<b>Cosmetics and Toiletries</b>	Suncare	Mass Sun Protection	Suncare
<b>Cosmetics and Toiletries</b>	Suncare	Premium After Sun	Suncare
<b>Cosmetics and Toiletries</b>	Suncare	Premium Self Tan	Suncare
<b>Cosmetics and Toiletries</b>	Suncare	Premium Sun Protection	Suncare
<b>Food</b>	Bakery and Cereals	Artisanal Cookies	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Baking Chocolate Chips and Morsels	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Baking Powder/Soda	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Bread Mixes	Bakery and Cereals

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Bakery and Cereals	Bread Substitutes	Bakery and Cereals
Food	Bakery and Cereals	Brownie Mixes	Bakery and Cereals
Food	Bakery and Cereals	Cake Decorations and Icing	Bakery and Cereals
Food	Bakery and Cereals	Cake Mixes	Bakery and Cereals
Food	Bakery and Cereals	Cheese Flavored Crackers	Bakery and Cereals
Food	Bakery and Cereals	Chocolate Chip Cookies	Bakery and Cereals
Food	Bakery and Cereals	Chocolate Coated Cookies	Bakery and Cereals
Food	Bakery and Cereals	Cocoa Baking	Bakery and Cereals
Food	Bakery and Cereals	Congee	Bakery and Cereals
Food	Bakery and Cereals	Corn and Potato Starch	Bakery and Cereals
Food	Bakery and Cereals	Desiccated Coconut	Bakery and Cereals
Food	Bakery and Cereals	Dessert Mixes	Bakery and Cereals
Food	Bakery and Cereals	Dry Yeast	Bakery and Cereals
Food	Bakery and Cereals	Energy Bars	Bakery and Cereals
Food	Bakery and Cereals	Fruit Pectins and Glazed Fruit	Bakery and Cereals
Food	Bakery and Cereals	Granola/Muesli/Yogurt Bars	Bakery and Cereals
Food	Bakery and Cereals	Hot Cereals	Bakery and Cereals
Food	Bakery and Cereals	Muffin Mixes	Bakery and Cereals
Food	Bakery and Cereals	Non-Chocolate Baking Chips	Bakery and Cereals

<b>GlobalData Packaging Sales Data Categories</b>			<b>This Study</b>
<b>Industry</b>	<b>Sector</b>	<b>Segment</b>	<b>Function Cluster</b>
<b>Food</b>	Bakery and Cereals	Other Baking Ingredients	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Other Baking Mixes	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Other Cereal Bars	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Other Cookies	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Other Crackers	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Packaged/Industrial Bread and Rolls	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Packaged/Industrial Cakes, Pastries and Sweet Pies	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Packaged/Industrial Dough products	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Packaged/Industrial Morning Goods	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Packaging/Industrial Tortilla	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Pancake Mixes	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Plain Cookies	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Plain Crackers	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Ready to Eat Cereals	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Rolls/Biscuit Mixes	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Sandwich style Cookies	Bakery and Cereals
<b>Food</b>	Bakery and Cereals	Wafer Biscuits	Bakery and Cereals

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Beans and Pulses	Dried - Beans and Pulses	Beans and Pulses
Food	Beans and Pulses	Frozen - Beans and Pulses	Beans and Pulses
Food	Confectionery	Boxed Chocolate	Confectionery
Food	Confectionery	Bubble Gum	Confectionery
Food	Confectionery	Caramels and Toffees	Confectionery
Food	Confectionery	Chewing Gum	Confectionery
Food	Confectionery	Chocolate Countlines	Confectionery
Food	Confectionery	Chocolate Straightlines	Confectionery
Food	Confectionery	Gums and Jellies	Confectionery
Food	Confectionery	Hard Candy	Confectionery
Food	Confectionery	Licorice	Confectionery
Food	Confectionery	Lollipops	Confectionery
Food	Confectionery	Medicated Confectionery	Confectionery
Food	Confectionery	Mints	Confectionery
Food	Confectionery	Molded Bars	Confectionery
Food	Confectionery	Novelties	Confectionery
Food	Confectionery	Other Chocolate	Confectionery
Food	Confectionery	Other Sugar Confectionery	Confectionery
Food	Dairy and Soy Food	Butter	All other dairy/soy products

<b>GlobalData Packaging Sales Data Categories</b>			<b>This Study</b>
<b>Industry</b>	<b>Sector</b>	<b>Segment</b>	<b>Function Cluster</b>
<b>Food</b>	Dairy and Soy Food	Cheesecakes	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Cream	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Creme Caramel	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Custard Ready to Eat	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Eggs	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Fermented Milk	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Flans (Puddings/Desserts)	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Fools/Trifles/Berry Desserts	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Frozen Puddings/Desserts	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Margarine/Spreadable fats	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Mousses	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Natural Cheese	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Other Dairy-Based Desserts	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Other Drinkable Yogurt	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Processed Cheese	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Rice, Nut, Grain and Seed Based Drinks	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Shelf Stable	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Soy cream	All other dairy/soy products
<b>Food</b>	Dairy and Soy Food	Soy Based Desserts	All other dairy/soy products

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Dairy and Soy Food	Soy Milk (Powdered)	All other dairy/soy products
Food	Dairy and Soy Food	Spoonable Yogurt	All other dairy/soy products
Food	Dairy and Soy Food	Trifles	All other dairy/soy products
Food	Dairy and Soy Food	White Milk	Milk - Liquid dairy and soy milk products
Food	Dairy and Soy Food	Flavored Milk	Milk - Liquid dairy and soy milk products
Food	Dairy and Soy Food	Lactic Acid Drinks	Milk - Liquid dairy and soy milk products
Food	Dairy and Soy Food	Soy Drinks	Milk - Liquid dairy and soy milk products
Food	Dairy and Soy Food	Soy milk Liquid	Milk - Liquid dairy and soy milk products
Food	Dried Food	Rice	Dried Food
Food	Fish and Seafood	Ambient Fish and Seafood	Fish and Seafood
Food	Fish and Seafood	Dried Fish and Seafood	Fish and Seafood
Food	Fish and Seafood	Frozen Processed Fish	Fish and Seafood
Food	Fish and Seafood	Frozen Whole Cuts Of Fish and Seafood	Fish and Seafood
Food	Fish and Seafood	Uncooked Packaged Fish and Seafood - Processed	Fish and Seafood

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Fish and Seafood	Uncooked Packaged Fish and Seafood - Whole Cuts	Fish and Seafood
Food	Fruit and Vegetables	Fresh Fruit and Vegetables	Fruit and Vegetables
Food	Fruit and Vegetables	Fruit cocktail	Fruit and Vegetables
Food	Fruit and Vegetables	Other Canned Fruit	Fruit and Vegetables
Food	Fruit and Vegetables	Peaches	Fruit and Vegetables
Food	Fruit and Vegetables	Pears	Fruit and Vegetables
Food	Fruit and Vegetables	Pineapple	Fruit and Vegetables
Food	Ice Cream	Artisanal Ice Cream	Ice Cream
Food	Ice Cream	Dairy Based (Impulse Ice Cream)	Ice Cream
Food	Ice Cream	Dairy Based (Take Home Ice Cream)	Ice Cream
Food	Ice Cream	Water Based (Impulse Ice Cream)	Ice Cream
Food	Ice Cream	Water Based (Take Home Ice Cream)	Ice Cream
Food	Meat	Ambient Meat	Meat
Food	Meat	Bacon	Meat
Food	Meat	Beef (Chilled Raw Packaged Meat - Whole Cuts)	Meat

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Meat	Beef (Cooked Meats - Packaged)	Meat
Food	Meat	Burgers and Grills	Meat
Food	Meat	Chicken (Chilled Raw Packaged Meat - Whole Cuts)	Meat
Food	Meat	Chicken (Cooked Meats - Packaged)	Meat
Food	Meat	Coated Portions	Meat
Food	Meat	Frozen Processed Meat	Meat
Food	Meat	Frozen Whole Cuts Of Meat	Meat
Food	Meat	Lamb (Chilled Raw Packaged Meat - Whole Cuts)	Meat
Food	Meat	Lamb (Cooked Meats - Packaged)	Meat
Food	Meat	Meatballs	Meat
Food	Meat	Other (Chilled Raw Packaged Meat - Whole Cuts)	Meat
Food	Meat	Other (Cooked Meats - Packaged)	Meat
Food	Meat	Pork (Chilled Raw Packaged Meat - Whole Cuts)	Meat
Food	Meat	Pork (Cooked Meats - Packaged)	Meat

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Meat	Sausages	Meat
Food	Meat	Turkey (Chilled Raw Packaged Meat - Whole Cuts)	Meat
Food	Meat	Turkey (Cooked Meats - Packaged)	Meat
Food	Meat Substitutes	Fungi (Mycoprotein)	Meat Substitutes
Food	Meat Substitutes	Legume based	Meat Substitutes
Food	Meat Substitutes	Other (Grain-Based)	Meat Substitutes
Food	Meat Substitutes	Other (Soy based)	Meat Substitutes
Food	Meat Substitutes	Other (Vegetable/Plant based proteins)	Meat Substitutes
Food	Meat Substitutes	Pea based	Meat Substitutes
Food	Meat Substitutes	Seitan	Meat Substitutes
Food	Meat Substitutes	Tofu	Meat Substitutes
Food	Meat Substitutes	Yuba	Meat Substitutes
Food	Oils and Fats	Compound Cooking Fats (CCF)	Solid fats
Food	Oils and Fats	Cooking Sprays	Solid fats
Food	Oils and Fats	Corn Oil	Liquid oils
Food	Oils and Fats	Ghee	Liquid oils
Food	Oils and Fats	Lard	Liquid oils

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Oils and Fats	Olive Oil	Liquid oils
Food	Oils and Fats	Other Edible Oils	Liquid oils
Food	Oils and Fats	Other Solid Fats	Liquid oils
Food	Oils and Fats	Shortening	Liquid oils
Food	Oils and Fats	Sunflower Oil	Liquid oils
Food	Oils and Fats	Vegetable Oil	Liquid oils
Food	Other Frozen Foods	French fries	Other Frozen Foods
Food	Other Frozen Foods	Frozen fruit	Other Frozen Foods
Food	Other Frozen Foods	Frozen vegetables	Other Frozen Foods
Food	Other Frozen Foods	Other frozen bakery products	Other Frozen Foods
Food	Other Frozen Foods	Other frozen potato products	Other Frozen Foods
Food	Other Frozen Foods	Savory bakery products	Other Frozen Foods
Food	Pasta and Noodles	Ambient Noodles	Pasta and Noodles
Food	Pasta and Noodles	Ambient Pasta	Pasta and Noodles
Food	Pasta and Noodles	Chilled Noodles	Pasta and Noodles
Food	Pasta and Noodles	Chilled Pasta	Pasta and Noodles
Food	Pasta and Noodles	Dried Pasta	Pasta and Noodles
Food	Pasta and Noodles	Instant Noodles	Pasta and Noodles
Food	Pasta and Noodles	Plain Noodles	Pasta and Noodles

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Pasta and Noodles	Snack Noodles	Pasta and Noodles
Food	Prepared Meals	Ambient Meal Kits	Prepared Meals
Food	Prepared Meals	Ambient Ready Meals	Prepared Meals
Food	Prepared Meals	Chilled Meal Kits	Prepared Meals
Food	Prepared Meals	Chilled Pizza	Prepared Meals
Food	Prepared Meals	Chilled Ready Meals	Prepared Meals
Food	Prepared Meals	Dried Ready Meals	Prepared Meals
Food	Prepared Meals	Frozen Meal Kits	Prepared Meals
Food	Prepared Meals	Frozen Pizza	Prepared Meals
Food	Prepared Meals	Frozen Ready Meals	Prepared Meals
Food	Savory and Deli Foods	Chorizo	Savory and Deli Foods
Food	Savory and Deli Foods	Croque Monsieur	Savory and Deli Foods
Food	Savory and Deli Foods	Cured Meats	Savory and Deli Foods
Food	Savory and Deli Foods	Flans (Savory Baked Goods)	Savory and Deli Foods
Food	Savory and Deli Foods	Frozen Savory Baked Goods	Savory and Deli Foods
Food	Savory and Deli Foods	Leaf Salads	Savory and Deli Foods
Food	Savory and Deli Foods	Other (Fermented Meats)	Savory and Deli Foods
Food	Savory and Deli Foods	Other (Non Fruit)	Savory and Deli Foods
Food	Savory and Deli Foods	Other (Savory Baked Goods)	Savory and Deli Foods

<b>GlobalData Packaging Sales Data Categories</b>			<b>This Study</b>
<b>Industry</b>	<b>Sector</b>	<b>Segment</b>	<b>Function Cluster</b>
<b>Food</b>	Savory and Deli Foods	Pates	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Pepperoni	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Pies	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Potato Salads	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Pre Packed Sandwiches	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Quiches	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Salami	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Savory Appetizers	Savory and Deli Foods
<b>Food</b>	Savory and Deli Foods	Tourte	Savory and Deli Foods
<b>Food</b>	Savory Snacks	Baked	Savory Snacks
<b>Food</b>	Savory Snacks	Corn Chips	Savory Snacks
<b>Food</b>	Savory Snacks	Extruded Snacks	Savory Snacks
<b>Food</b>	Savory Snacks	Fried	Savory Snacks
<b>Food</b>	Savory Snacks	Meat Snacks	Savory Snacks
<b>Food</b>	Savory Snacks	Microwaveable Popcorn	Savory Snacks
<b>Food</b>	Savory Snacks	Other Nuts and Seeds	Dried Food
<b>Food</b>	Savory Snacks	Peanuts	Dried Food
<b>Food</b>	Savory Snacks	Pork Scratchings	Savory Snacks
<b>Food</b>	Savory Snacks	Pretzels	Savory Snacks

<b>GlobalData Packaging Sales Data Categories</b>			<b>This Study</b>
<b>Industry</b>	<b>Sector</b>	<b>Segment</b>	<b>Function Cluster</b>
<b>Food</b>	Savory Snacks	Ready to Eat Popcorn	Savory Snacks
<b>Food</b>	Savory Snacks	Rice Snacks	Savory Snacks
<b>Food</b>	Savory Snacks	Tortilla Chips	Savory Snacks
<b>Food</b>	Savory Snacks	Trail Mixes	Dried Food
<b>Food</b>	Savory Snacks	Unpopped Corn	Dried Food
<b>Food</b>	Savory Snacks	Vegetable / Pulse / Bread Snacks	Savory Snacks
<b>Food</b>	Seasonings, Dressings and Sauces	Barbecue Sauces	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Brown Sauce	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Chili/Hot Sauce	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Chutney	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Cocktail Sauces	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Cream and Cream-Style Dips	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Cream and Cream-Style Dressings	All Other Seasonings, Dressings, and Sauces
<b>Food</b>	Seasonings, Dressings and Sauces	Dried Herbs	Herbs, Spices and Seasonings

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Seasonings, Dressings and Sauces	Dry Sauce Mixes	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Fish Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Gravy Makers (Non-gravy granules)	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Horseradish Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Hummus	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Indian Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Instant Gravy	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Liquid Stocks	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Marinades	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Mayonnaise	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Meat Based Broth	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Latin Inspired Sauces	All Other Seasonings, Dressings, and Sauces

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Seasonings, Dressings and Sauces	Mustards	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	National Specialties (e.g., Worcestershire Sauce)	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Oil Based Dips	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Asian Inspired Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Other Condiment Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Other Dips	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Other Dressings	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Oyster Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Pasta Sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Pepper	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Relish	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Salt	Herbs, Spices and Seasonings

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Seasonings, Dressings and Sauces	Salt Substitutes	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Single and Other Spices	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Soy Based Sauce	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Spice Mixes	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Stock Cubes	Herbs, Spices and Seasonings
Food	Seasonings, Dressings and Sauces	Tartare sauces	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Tomato Ketchup	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Tomato pastes and purées	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Tomato Based	All Other Seasonings, Dressings, and Sauces
Food	Seasonings, Dressings and Sauces	Vinaigrette	All Other Seasonings, Dressings, and Sauces
Food	Soups	Chunky Soup (Ambient Soup)	Soups
Food	Soups	Chunky Soup (Chilled Soup)	Soups
Food	Soups	Creme Soup (Ambient Soup)	Soups

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Food	Soups	Creme Soup (Chilled Soup)	Soups
Food	Soups	Dehydrated Soup	Soups
Food	Soups	Frozen Soup	Soups
Food	Soups	Instant Soup	Soups
Food	Soups	Other Ambient Soup	Soups
Food	Soups	Other Chilled Soup	Soups
Food	Syrups and Spreads	Beef/Yeast Based	Other syrups and spreads
Food	Syrups and Spreads	Chocolate Spreads	Other syrups and spreads
Food	Syrups and Spreads	Honey	Other syrups and spreads
Food	Syrups and Spreads	Jams	Other syrups and spreads
Food	Syrups and Spreads	Meat and Fish Pastes	Other syrups and spreads
Food	Syrups and Spreads	Molasses	Other syrups and spreads
Food	Syrups and Spreads	Nut Based Spreads	Nut-Based Spreads
Food	Syrups and Spreads	Sandwich Fillers	Other syrups and spreads
Food	Syrups and Spreads	Syrups	Other syrups and spreads
Household Products	Household Products	Automatic Dishwashing Products	Dishwashing and Laundry Products
Household Products	Household Products	B2B Tissue and Hygiene	Other Household Care Products

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Household Products	Household Products	Car Air Fresheners	Other Household Care Products
Household Products	Household Products	Carpet Cleaners	Other Household Care Products
Household Products	Household Products	Dishwashing Additives	Dishwashing and Laundry Products
Household Products	Household Products	Electrical Air Fresheners	Other Household Care Products
Household Products	Household Products	Fabric Conditioners and Softeners	Dishwashing and Laundry Products
Household Products	Household Products	Gel Air Fresheners	Other Household Care Products
Household Products	Household Products	Gels and Lotions (e.g., cleaning gel)	Other Household Care Products
Household Products	Household Products	Hand Washing products	Other Household Care Products
Household Products	Household Products	Household Care (Non-Wipe) Cleaners	Other Household Care Products
Household Products	Household Products	Household Care Wipes and Cleaners	Other Household Care Products
Household Products	Household Products	In Cistern devices	Other Household Care Products
Household Products	Household Products	Laundry Aids	Dishwashing and Laundry Products

GlobalData Packaging Sales Data Categories			This Study
Industry	Sector	Segment	Function Cluster
Household Products	Household Products	Laundry Detergents	Dishwashing and Laundry Products
Household Products	Household Products	Liquid	Other Household Care Products
Household Products	Household Products	Liquid Air Fresheners	Other Household Care Products
Household Products	Household Products	Liquid and Powder Scouring Products	Other Household Care Products
Household Products	Household Products	Other Air Fresheners	Other Household Care Products
Household Products	Household Products	Other Personal Insect Repellents	Other Household Care Products
Household Products	Household Products	Retail Tissue and Hygiene	Other Household Care Products
Household Products	Household Products	Rim devices	Other Household Care Products
Household Products	Household Products	Scouring pads	Other Household Care Products
Household Products	Household Products	Sprays	Other Household Care Products
Household Products	Household Products	Toilet Cleaning Products	Other Household Care Products
Household Products	Household Products	Wearables (e.g., rubber gloves)	Other Household Care Products

<b>GlobalData Packaging Sales Data Categories</b>			<b>This Study</b>
<b>Industry</b>	<b>Sector</b>	<b>Segment</b>	<b>Function Cluster</b>
<b>Pet Care</b>	Cat Care	Dry Cat Food	Dry pet food
<b>Pet Care</b>	Cat Care	Moist Cat Food	Moist pet food
<b>Pet Care</b>	Dog Care	Dry Dog Food	Dry pet food
<b>Pet Care</b>	Dog Care	Moist Dog Food	Moist pet food
<b>Pet Care</b>	Other Pet Care	Bird Food	Other Pet Care
<b>Pet Care</b>	Other Pet Care	Fish Food	Other Pet Care
<b>Pet Care</b>	Other Pet Care	Rodent Food	Other Pet Care
<b>Tobacco and Tobacco Products</b>	Cigars	Cigars	Tobacco and Tobacco Products
<b>Tobacco and Tobacco Products</b>	Loose Tobacco	Loose Tobacco	Tobacco and Tobacco Products
<b>Tobacco and Tobacco Products</b>	Smokeless Tobacco	Snuff/Snus	Tobacco and Tobacco Products
<b>Tobacco and Tobacco Products</b>	Smoking Tobacco	Fine Cut Tobacco	Tobacco and Tobacco Products
<b>Tobacco and Tobacco Products</b>	Smoking Tobacco	Pipe Tobacco	Tobacco and Tobacco Products

Table A-4, Table A-5, and Table A-6 show the estimated unit sales for Fast Moving Consumer Goods (FMCG) by GlobalData packaging format type, grouped by the contractor into function clusters for California in 2023 (note that FMCGs do not include durable goods). Note that these tables show some packaging formats defined by GlobalData as majority plastic (Foil - Aluminum and Tube - Flexible Aluminum). This analysis was concerned only with majority plastic formats therefore these units were removed from this analysis (later analysis assessed plastic use in nondominant plastic formats - see Plastic Covered Material in Nonplastic Material Classes).

**Table A-4: Estimated Number (Millions) of Adapted Baseline FMCG Units Sold B2C in California in 2023 (Part 1 Showing 1-11 of 27 GlobalData Format Types)**

Function Cluster	GlobalData Format Type										
	Aerosol - Plastic	Bag/ Sachet - Aluminum/ Plastic	Bag/ Sachet - Flexible Plastic	Blister Packaging - Plastic	Bottle - HDPE	Bottle - Other Plastic	Bottle - PET	Box - Rigid Plastic	Clamshell - Plastic	Cup - Plastic	Film - Flexible Plastic
Baby Care	0	5	105	0	10	0	7	0	0	2	0
Menstrual Hygiene	0	0	48	9	8	2	1	0	0	0	0
Fragrances	0	0	0	0	0	0	0	0	0	0	0
Personal Bathing Products	0	4	0	0	10	2	0	0	0	0	0
All Other Hair Products	0	0	0	0	67	16	6	0	0	0	0
Make-Up	0	0	0	0	0	1	0	0	0	0	0
Grooming Products	0	0	1	18	1	1	1	0	0	0	0
Oral Hygiene - Excluding Mouthwash	0	0	5	56	1	0	35	0	0	0	0
Oral Hygiene - Mouthwash	0	0	0	0	0	0	0	0	0	0	0
Anti-Perspirants and Deodorants	0	0	43	0	177	37	70	0	0	0	30

	GlobalData Format Type										
Function Cluster	Aerosol - Plastic	Bag/ Sachet - Aluminum/ Plastic	Bag/ Sachet - Flexible Plastic	Blister Packaging - Plastic	Bottle - HDPE	Bottle - Other Plastic	Bottle - PET	Box - Rigid Plastic	Clamshell - Plastic	Cup - Plastic	Film - Flexible Plastic
Skincare	0	0	8	0	86	56	9	0	0	0	0
Suncare	0	0	0	0	6	1	0	0	0	0	0
Bakery and Cereals	0	0	3,877	0	3	0	0	0	142	0	1,682
Beans and Pulses	0	0	111	0	0	0	0	0	0	0	0
Confectionery	0	0	1,417	146	0	0	0	18	0	0	962
All Other Dairy/Soy Products	0	0	124	0	1,312	2	123	0	159	68	354
Milk - Liquid Dairy and Soy Milk Products	0	0	0	0	0	0	0	0	0	0	0
Dried Food	0	0	1,013	0	0	0	0	0	0	0	0
Fish and Seafood	0	8	80	0	0	0	0	0	0	0	0
Fruit and Vegetables	0	0	3	0	0	0	0	0	1,180	55	4,130
Ice Cream	0	0	487	0	0	0	0	0	0	0	0
Meat	0	0	358	0	0	0	0	0	0	0	334
Meat Substitutes	0	0	26	0	0	0	0	0	0	0	0
Solid Fats	13	0	0	0	3	0	19	0	0	0	0

	GlobalData Format Type										
Function Cluster	Aerosol - Plastic	Bag/ Sachet - Aluminum/ Plastic	Bag/ Sachet - Flexible Plastic	Blister Packaging - Plastic	Bottle - HDPE	Bottle - Other Plastic	Bottle - PET	Box - Rigid Plastic	Clamshell - Plastic	Cup - Plastic	Film - Flexible Plastic
Liquid Oils	0	0	0	0	3	0	66	0	0	0	0
Other Frozen Foods	0	0	566	0	0	0	0	0	0	0	0
Pasta and Noodles	0	0	473	0	0	0	0	0	0	0	0
Prepared Meals	0	0	196	0	0	0	0	0	0	3	326
Savory and Deli Foods	0	0	228	0	0	0	0	0	0	0	68
Savory Snacks	0	0	3,959	0	0	0	0	0	0	0	53
All Other Seasonings, Dressings, and Sauces	0	46	17	0	11	15	212	0	0	1	0
Herbs, Spices, and Seasonings	0	47	350	0	20	46	33	0	0	0	0
Soups	0	59	13	0	0	0	0	0	0	0	0
Nut Based Spreads	0	0	1	0	0	0	2	0	0	0	0
Other Syrups and Spreads	0	0	49	0	0	15	18	0	0	4	0
Other Household Care Products	0	1	190	20	136	0	49	0	0	0	0

	GlobalData Format Type										
Function Cluster	Aerosol - Plastic	Bag/ Sachet - Aluminum/ Plastic	Bag/ Sachet - Flexible Plastic	Blister Packaging - Plastic	Bottle - HDPE	Bottle - Other Plastic	Bottle - PET	Box - Rigid Plastic	Clamshell - Plastic	Cup - Plastic	Film - Flexible Plastic
Dishwashing and Laundry Products	0	0	0	0	32	0	30	0	0	0	0
Dry Pet Food	0	0	347	0	0	0	0	0	0	0	0
Moist Pet Food	0	149	0	0	0	0	0	0	0	0	0
Other Pet Care	0	6	4	0	0	0	0	0	0	0	0
Tobacco and Tobacco Products	0	0	21	0	0	0	0	0	0	0	0

**Table A-5: Estimated Number (Millions) of Adapted baseline FMCG Units Sold B2C in California in 2023 (Part 2 Showing 12-22 of 27 GlobalData Format Types)**

	GlobalData Format Type										
Function Cluster	Foil - Aluminum	Jar - HDPE	Jar - Other Plastic	Jar - PET	Other Rigid Plastic Packaging Types - All Sub-types	Pillow Pouch - Plastic	Specialty Container - Rigid Plastic	Stand Up Pouch - Aluminum/Plastic	Stand Up Pouch - Flexible Plastic	Tray - Microwaveable Plastic	Tray - Other Plastic
Baby Care	0	5	0	0	0	0	0	153	0	20	1
Menstrual Hygiene	0	0	0	0	0	0	0	0	0	0	0
Fragrances	0	0	0	0	0	0	0	0	0	0	0
Personal Bathing Products	0	0	0	0	0	0	0	0	0	0	0
All Other Hair Products	0	0	0	0	0	0	0	0	0	0	0
Make-Up	0	0	10	0	1	0	154	0	0	0	0
Grooming Products	0	0	0	0	0	0	0	0	0	0	0
Oral Hygiene - Excluding Mouthwash	0	0	0	0	14	0	0	0	0	0	0

	GlobalData Format Type										
Function Cluster	Foil - Aluminum	Jar - HDPE	Jar - Other Plastic	Jar - PET	Other Rigid Plastic Packaging Types - All Sub-types	Pillow Pouch - Plastic	Specialty Container - Rigid Plastic	Stand Up Pouch - Aluminum/Plastic	Stand Up Pouch - Flexible Plastic	Tray - Microwaveable Plastic	Tray - Other Plastic
Oral Hygiene - Mouthwash	0	0	0	0	0	0	0	0	0	0	0
Anti Perspirants and Deodorants	0	0	0	0	0	0	0	0	6	0	0
Skincare	0	0	0	0	0	0	0	0	0	0	0
Suncare	0	0	0	0	0	0	0	0	0	0	0
Bakery and Cereals	0	0	0	0	0	0	0	0	46	0	471
Beans and Pulses	0	0	0	2	0	0	0	0	38	0	0
Confectionery	53	17	0	27	2	0	0	0	119	0	23
All Other Dairy/Soy Products	52	0	0	0	0	14	0	0	0	0	52

	GlobalData Format Type										
Function Cluster	Foil - Aluminum	Jar - HDPE	Jar - Other Plastic	Jar - PET	Other Rigid Plastic Packaging Types - All Sub-types	Pillow Pouch - Plastic	Specialty Container - Rigid Plastic	Stand Up Pouch - Aluminum/Plastic	Stand Up Pouch - Flexible Plastic	Tray - Microwaveable Plastic	Tray - Other Plastic
Milk - Liquid Dairy and Soy Milk Products	0	0	0	0	0	0	0	0	0	0	0
Dried Food	0	0	0	5	0	0	0	0	32	0	0
Fish and Seafood	0	0	0	0	0	0	0	6	0	0	26
Fruit and Vegetables	0	0	0	5	0	0	0	0	0	0	1,180
Ice Cream	0	0	0	0	0	0	0	0	0	0	0
Meat	0	0	0	0	0	0	0	0	1	0	1,046
Meat Substitutes	0	0	0	0	0	0	0	0	13	0	12
Solid Fats	0	0	0	0	0	0	0	0	0	0	0
Liquid Oils	0	6	0	9	0	0	0	0	0	0	0

	GlobalData Format Type										
Function Cluster	Foil - Aluminum	Jar - HDPE	Jar - Other Plastic	Jar - PET	Other Rigid Plastic Packaging Types - All Sub-types	Pillow Pouch - Plastic	Specialty Container - Rigid Plastic	Stand Up Pouch - Aluminum/Plastic	Stand Up Pouch - Flexible Plastic	Tray - Microwaveable Plastic	Tray - Other Plastic
Other Frozen Foods	0	0	0	0	0	0	0	0	398	0	0
Pasta and Noodles	0	0	0	0	0	0	0	1	0	0	9
Prepared Meals	0	0	0	0	0	0	0	0	45	1,197	23
Savory and Deli Foods	0	0	0	0	0	0	0	0	0	0	413
Savory Snacks	0	1	0	8	0	0	0	0	94	0	20
All Other Seasonings, Dressings, and Sauces	1	6	4	15	0	0	0	0	60	0	0
Herbs, Spices and Seasonings	0	15	68	18	0	0	0	0	60	0	0
Soups	0	0	0	0	0	0	0	0	198	0	0

	GlobalData Format Type										
Function Cluster	Foil - Aluminum	Jar - HDPE	Jar - Other Plastic	Jar - PET	Other Rigid Plastic Packaging Types - All Sub-types	Pillow Pouch - Plastic	Specialty Container - Rigid Plastic	Stand Up Pouch - Aluminum/Plastic	Stand Up Pouch - Flexible Plastic	Tray - Microwaveable Plastic	Tray - Other Plastic
Nut Based Spreads	0	0	0	4	0	0	0	0	0	0	0
Other Syrups and Spreads	0	0	1	55	0	0	0	0	2	0	0
Other Household Care Products	0	3	0	0	0	0	3	2	10	0	0
Dishwashing and Laundry Products	0	0	0	0	0	0	6	0	0	0	0
Dry Pet Food	0	0	0	0	0	0	0	24	0	0	0
Moist Pet Food	0	0	0	0	0	0	0	103	0	0	603
Other Pet Care	0	1	0	0	0	0	0	0	1	0	0
Tobacco and Tobacco Products	0	0	0	0	0	0	0	0	1	0	0

**Table A-6: Estimated Number (Millions) of Adapted Baseline FMCG Units Sold B2C in California in 2023 (Part 3 Showing 23-27 of 27 GlobalData Format Types)**

Function Cluster	GlobalData Format Type				
	Tub - Plastic	Tube - Flexible Aluminum	Tube - Flexible Aluminum/Plastic	Tube - Flexible Plastic	Tube - Rigid Plastic
Baby Care	4	0	0	1	0
Menstrual Hygiene	0	0	0	0	0
Fragrances	0	0	0	0	0
Personal Bathing Products	1	0	0	24	97
All Other Hair Products	5	0	0	15	0
Make-Up	0	0	0	9	0
Grooming Products	0	0	0	3	0
Oral Hygiene - Excluding Mouthwash	0	0	0	29	2
Oral Hygiene - Mouthwash	0	0	0	52	0
Anti-Perspirants and Deodorants	6	0	0	9	0
Skincare	50	0	0	71	0
Suncare	0	0	0	20	0
Bakery and Cereals	84	0	0	20	0
Beans and Pulses	0	0	0	0	0
Confectionery	19	0	0	0	0
All Other Dairy/Soy Products	424	0	0	0	0

Function Cluster	GlobalData Format Type				
	Tub - Plastic	Tube - Flexible Aluminum	Tube - Flexible Aluminum/Plastic	Tube - Flexible Plastic	Tube - Rigid Plastic
Milk - Liquid Dairy and Soy Milk Products	1,921	0	0	0	0
Dried Food	2	0	0	0	0
Fish and Seafood	0	0	0	0	0
Fruit and Vegetables	0	0	0	0	0
Ice Cream	80	0	0	0	0
Meat	12	0	0	0	0
Meat Substitutes	0	0	0	0	0
Solid Fats	0	0	0	0	0
Liquid Oils	36	0	0	0	0
Other Frozen Foods	0	0	0	0	0
Pasta and Noodles	0	0	0	0	0
Prepared Meals	255	0	0	0	0
Savory and Deli Foods	61	0	0	0	0
Savory Snacks	14	0	0	0	0
All Other Seasonings, Dressings, and Sauces	277	0	1	3	0
Herbs, Spices and Seasonings	0	0	6	0	0
Soups	96	0	0	0	0

Function Cluster	GlobalData Format Type				
	Tub - Plastic	Tube - Flexible Aluminum	Tube - Flexible Aluminum/Plastic	Tube - Flexible Plastic	Tube - Rigid Plastic
Nut Based Spreads	0	0	0	0	0
Other Syrups and Spreads	4	0	0	0	0
Other Household Care Products	6	0	0	0	0
Dishwashing and Laundry Products	0	0	0	0	0
Dry Pet Food	0	0	0	0	0
Moist Pet Food	0	0	0	0	0
Other Pet Care	1	0	0	0	5
Tobacco and Tobacco Products	167	0	0	0	0

**Table A-7: Mapping GlobalData Unit Sales Categories to Format Clusters (Part 1 Showing 1-11 of 25 Primary and Secondary Packaging Format Clusters)**

The contractor mapped GlobalData unit sales categories (column 1) to Format Clusters (row 1) for the purposes of this study.

GlobalData Unit Sales Category	Format Cluster										
	Flexible Bag - Low Barrier (Nonfood)	Flexible Bag - Low Barrier (Food)	Flexible Bag - Medium Barrier (Nonfood)	Flexible Bag - Medium Barrier (Food)	Flexible Bag - High Barrier (Food)	Tray and Film - Low Barrier (Nonfood)	Tray and Film - Low Barrier (Food)	Tray and Film - High Barrier (Food)	Tub and Lid - Light Weight (Nonfood)	Tub and Lid Light Weight (Food)	Tub and Lid Higher Weight (Nonfood)
<b>Aerosol - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bag/sachet - Aluminum/Plastic</b>	0%	0%	47%	0%	53%	0%	0%	0%	0%	0%	0%
<b>Bag/Sachet - Flexible Plastic</b>	0%	0%	8%	92%	0%	0%	0%	0%	0%	0%	0%
<b>Blister Packaging- Plastic</b>	0%	0%	41%	59%	0%	0%	0%	0%	0%	0%	0%
<b>Bottle - HDPE</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bottle - Other Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bottle - PET</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Box - Rigid Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Clamshell - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Cup - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
<b>Film - Flexible Plastic</b>	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Foil - Aluminum</b>	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
<b>Jar - HDPE</b>	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	10%
<b>Jar - Other Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	8%
<b>Jar - PET</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Other Rigid Plastic Packaging Types - All Sub-types</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Pillow Pouch - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

	Format Cluster										
GlobalData Unit Sales Category	Flexible Bag - Low Barrier (Nonfood)	Flexible Bag - Low Barrier (Food)	Flexible Bag - Medium Barrier (Nonfood)	Flexible Bag - Medium Barrier (Food)	Flexible Bag - High Barrier (Food)	Tray and Film - Low Barrier (Nonfood)	Tray and Film - Low Barrier (Food)	Tray and Film - High Barrier (Food)	Tub and Lid - Light Weight (Nonfood)	Tub and Lid Light Weight (Food)	Tub and Lid Higher Weight (Nonfood)
Specialty Container - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Specialty Container - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stand Up Pouch - Aluminum/Plastic	0%	0%	45%	0%	55%	0%	0%	0%	0%	0%	0%
Stand Up Pouch - Flexible Plastic	0%	0%	2%	98%	0%	0%	0%	0%	0%	0%	0%
Tray - Microwaveable Plastic	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%
Tray - Other Plastic	0%	0%	0%	0%	0%	16%	84%	0%	0%	0%	0%
Tub - Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	92%	8%
Tube - Flexible Aluminum	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tube - Flexible Aluminum/Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tube - Flexible Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tube - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

**Table A-8: Mapping GlobalData Unit Sales Categories to Format Clusters (Part 2 Showing 12-25 of 25 Primary and Secondary Packaging Format Clusters)**

The contractor mapped GlobalData unit sales categories (column 1) to Format Clusters (row 1) for the purposes of this study.

GlobalData Unit Sales Category	Format Cluster													
	Plastic Jar and Lid - Minimum Preservation (Food)	Plastic Jar and Lid - High Preservation (Food)	Injection Molded Pail/Can	Clam Shell (Nonfood)	Clam Shell (Food)	Bottle and Cap (Nonfood)	Bottle and Cap (Food)	Bottle and Cap - High Function (Nonfood)	Bottle plus cap - High preservation (Food)	Bottle and Pump/ Trigger (Nonfood)	Tubes and Cap	Rigid Applicators	Rigid case	Impact Resistant Packaging (Nonfood)
<b>Aerosol - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bag/sachet - Aluminum/Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bag/Sachet - Flexible Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Blister Packaging - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Bottle - HDPE</b>	0%	0%	0%	0%	0%	21%	66%	5%	2%	6%	0%	0%	0%	0%
<b>Bottle - Other Plastic</b>	0%	0%	0%	0%	0%	61%	9%	0%	31%	0%	0%	0%	0%	0%
<b>Bottle - PET</b>	0%	0%	0%	0%	0%	25%	33%	7%	35%	1%	0%	0%	0%	0%
<b>Box - Rigid Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
<b>Clamshell - Plastic</b>	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Cup - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Film - Flexible Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Foil - Aluminum</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Jar - HDPE</b>	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Jar - Other Plastic</b>	42%	42%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Jar - PET</b>	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Other Rigid Plastic Packaging Types - All Sub-types</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%
<b>Pillow Pouch - Plastic</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

	Format Cluster													
GlobalData Unit Sales Category	Plastic Jar and Lid - Minimum Preservation (Food)	Plastic Jar and Lid - High Preservation (Food)	Injection Molded Pail/Can	Clam Shell (Nonfood)	Clam Shell (Food)	Bottle and Cap (Nonfood)	Bottle and Cap (Food)	Bottle and Cap - High Function (Nonfood)	Bottle plus cap - High preservation (Food)	Bottle and Pump/ Trigger (Nonfood)	Tubes and Cap	Rigid Applicators	Rigid case	Impact Resistant Packaging (Nonfood)
Specialty Container - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%
Specialty Container - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stand Up Pouch - Aluminum/Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stand Up Pouch - Flexible Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tray - Microwaveable Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tray - Other Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tub - Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Tube - Flexible Aluminum	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Tube - Flexible Aluminum/Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Tube - Flexible Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Tube - Rigid Plastic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Wrapper - Paper	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

The values in Table A-9 were used to estimate the number of e-commerce unit sales in California.

**Table A-9 Proportion of B2C FMCG Sales Through E-Commerce**

<b>Retail Market Categories</b>	<b>Proportion Sold Through E-Commerce<sup>1</sup></b>
<b>Total retail market</b>	17%
<b>Toys and hobby</b>	42%
<b>Office equipment and supplies</b>	40%
<b>Apparel and accessories</b>	37%
<b>Furniture and home furnishings</b>	33%
<b>Health/personal care and beauty</b>	17%
<b>Consumer electronics</b>	40%
<b>Food and beverage</b>	6%
<b>Auto</b>	5%

GlobalData labels each instance of FMCGs as falling into one of the ‘size bands’ shown in Table A-10. The contractor consolidated these size bands into size categories as part of calculations to determine average unit weights of products falling into each size category.

**Table A-10: Size Categorization Applied by the Consultant**

<b>Size Band</b>	<b>Size Category</b>
<b>0 - 10 Items</b>	Small
<b>11 - 40 Items</b>	Medium
<b>41 and Items</b>	Large
<b>0 - 8.82 oz</b>	Small
<b>8.82 - 26.46 oz</b>	Medium
<b>26.49 - 52.91 oz</b>	Medium
<b>52.95+ oz</b>	Large

Table A-11 shows the unit weights of each separable component (as relevant) for a representative ‘small’ product in each format cluster, as weighed by the contractor. Where no (or relatively few i.e., <10%) units are sold in a given small size category, no weighing was performed by the contractor and total packaging weight is marked as “N/A”.

**Table A-11: Unit Packaging Weights for Each Format Cluster (Small Size Category)**

<b>Format Cluster</b>	<b>Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	Pack of facial tissues	Net content: 8 travel packs (80 tissues total)	0.022
<b>Flexible Bag - Low Barrier (Food)</b>	Baked goods (e.g. chocolate chip milk rolls)	Net content: 9.9 oz (280 g)	0.013
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	Baby wipes	Net content: 80 wipes per package Size: 17.5 cm X 18.8 cm Packaging features: resealable, fragrance free	0.045
<b>Flexible Bag - Medium Barrier (Food)</b>	Confectionery (peanut chocolate candy)	Good feature: share size Net content: 3.27 oz	0.006
<b>Flexible Bag - High Barrier (Food)</b>	Cooking sauces (soy sauce)	Net content: 0.28 oz (8 g per packet)	0.009
<b>Tray and Film - Low Barrier (Nonfood)</b>	Collations of personal care (e.g. disposable razors)	Net content: 4 razors Good feature: 3 blades per razor	0.029
<b>Tray and Film - Low Barrier (Food)</b>	Cherry tomatoes	Net content: 1 pt (551 ml) Product feature: 16 oz	0.034
<b>Tray and Film - High Barrier (Food)</b>	Single portion fruit cup (e.g. sliced peaches in 100% juice)	Net content: pack of 12 Net weight per cup: 7 oz cup (198 g)	0.012

<b>Format Cluster</b>	<b>Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Tub and Lid - Light Weight (Nonfood)</b>	Assumed same as Tub and Lid - Light Weight (Food)	Assumed same as Tub and Lid - Light Weight (Food)	0.018
<b>Tub and Lid - Light Weight (Food)</b>	Single portion yogurt (e.g. whole milk yogurt)	Net content: 5.5 oz	0.018
<b>Tub and Lid - Higher Weight (Nonfood)</b>	Hair mask/creams	Net content: 10.1 oz Good feature: gel form Packaging feature: biodegradable	0.105
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	Powdered drinks/ peanut butter (e.g. creamy peanut butter spread)	Net content: 16 oz jar (1 lb) 454g	0.077
<b>Plastic Jar and Lid - High Preservation (Food)</b>	Jelly (e.g. strawberry spread)	Net content: 27 oz Shelf life: 270 days	0.115
<b>Injection Molded Pail/Can</b>	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	Small pack of screws (e.g. drywall screws)	Good features: sized #6 x 1.25 in, Steel Net content: 100 screws	0.025
<b>Clamshell (Food)</b>	Fresh fruit (e.g. tomatoes)	Net content: 1 lb tray (2 count) Shelf life: 2 days	0.059
<b>Bottle and Cap (Nonfood)</b>	Personal care goods (e.g. body wash)	Net content: 500 ml Product dimensions: 9.14 in x 3.81 in x 21.59 in	0.093
<b>Bottle and Cap (Food)</b>	Red wine vinegar	Net content: 16 fl oz (1 pt) 473 ml	0.091

<b>Format Cluster</b>	<b>Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Bottle and Cap - High Function (Nonfood)</b>	Cleanser (e.g. liquid hand soap)	Net content: 7.5 fl oz	0.067
<b>Bottle and Cap - High Preservation (Food)</b>	Italian-style salad dressing	Net content: 16 fl oz (1 lb) Product dimensions: 2 in x 3.26 in x 8.56 in	0.087
<b>Bottle and Pump/Trigger (Nonfood)</b>	Hand sanitizer	Good format: gel Net content: 8 oz. (236 mL) Packaging feature: pump	0.089
<b>Tubes and Cap (Nonfood)</b>	Toothpaste	Net content: 8.2 oz Product Dimensions: 10 in x 6 in x 6 in	0.039
<b>Rigid Applicators (Nonfood)</b>	Tinted lip balm	Net content: 0.15 oz (one pack) Product dimensions: 2.81 in x 0.75 in x 3.76 in	0.016
<b>Rigid Case (Nonfood)</b>	Makeup (e.g. eye shadow palette)	Product feature: 15-shades Product Dimensions: 0.47 in x 6.38 in x 3.31 in; 3.88 oz	0.176
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A

Table A-12 shows the unit weights of each separable component (as relevant) for a representative ‘medium’ product in each format cluster, as weighed by the contractor. Where no (or relatively few i.e., <10%) units are sold in the medium size category, no weighing was performed by the contractor and total packaging weight is marked as “N/A”.

**Table A-12: Unit Packaging Weights for Each Format Cluster (Medium Size Category)**

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	Toilet roll	Net content: 36 rolls (11,520 sheets) Good features: 2-ply	0.112
<b>Flexible Bag - Low Barrier (Food)</b>	Yellow potatoes	Net content: 3 lb bag	0.020
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	N/A	N/A
<b>Flexible Bag - Medium Barrier (Food)</b>	Cereal (e.g. european style muesli)	Net content: 16 oz bag	0.022
<b>Flexible Bag - High Barrier (Food)</b>	Ground beef	Net content: 1 lb roll Good features: 73% Lean / 27% Fat	0.017
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	Ground chicken	Net content: 1 lb tray Good feature: 92% Lean 8% Fat	0.055
<b>Tray and Film - High Barrier (Food)</b>	Individual prepared frozen meal	Net content: 14 oz Good feature: country fried chicken bowl Product dimensions: 1.63 in x 7.44 in x 7.44 in	0.043

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Tub and Lid - Light Weight (Nonfood)</b>	Laundry detergent pods	Net content: 50 count Product dimensions: 7 in x 4.7 in x 3.1in	0.362
<b>Tub and Lid - Light Weight (Food)</b>	Cream cheese spread	Net content: 12 oz tub Product dimensions: 4.51 in x 3.91 in x 3.73 in; 12.88 oz	0.034
<b>Tub and Lid - Higher Weight (Nonfood)</b>	Screws	Features: 4 size variety, zinc interior wood construction screw Net content: 465 pieces per package with four different sizes: (170) #8 x 1-1/2 in; (130) #8 x 2 in; (90) #8 x 2-1/2 in; (75) #8 x 3 in	0.377
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	Confectionery (e.g. peanut chocolate candy)	Packaging feature: resealable bulk candy jar Net content: 23 oz	0.151
<b>Plastic Jar and Lid - High Preservation (Food)</b>	Jelly (e.g. grape spread)	Net content: 20 oz (pack of 1) Packaging feature: squeezable Product dimensions: 2.23 in x 3 in x 7.32 in; 1.04 lb	0.182
<b>Injection Molded Pail/Can</b>	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	N/A	N/A	N/A
<b>Clamshell (Food)</b>	N/A	N/A	N/A
<b>Bottle and Cap (Nonfood)</b>	N/A	N/A	N/A

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lbs)</b>
<b>Bottle and Cap (Food)</b>	Cooking Oil (e.g. peanut oil)	Net content: 24 oz (709 ml) Product Dimensions: 2.6 in x 2.75 in x 8.25 in; 1.5 lbs	0.085
<b>Bottle and Cap - High Function (Nonfood)</b>	Laundry detergent	Net content: 50 fl oz (1.48 L) Packaging feature: recyclable Packaging Dimensions: 10.24 in x 7.52 in x 5.91 in; 3.7 lbs	0.220
<b>Bottle and Cap - High Preservation (Food)</b>	Ketchup	Net Wt: 20 oz bottle (1 lb 4 oz) 567 g	0.121
<b>Bottle and Pump/Trigger (Nonfood)</b>	Cleaning spray (e.g. all-purpose cleaner)	Net content: 32 oz bottle	0.190
<b>Tubes and Cap (Nonfood)</b>	N/A	N/A	N/A
<b>Rigid Applicators (Nonfood)</b>	Deodorant (e.g. stick)	Net content: 2.25 oz (64 g)	0.062
<b>Rigid Case (Nonfood)</b>	Screws	Net content: 180 Piece Good feature: zinc plated steel, self drilling screw set Packaging feature: clear case	0.163
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A

Table A-13 shows the unit weights of each separable component (as relevant) for a representative ‘large’ product in each format cluster, as weighed by the contractor. Where no (or relatively few i.e., <10%) units are sold in the large size category, no weighing was performed by the contractor and total packaging weight is marked as “N/A”.

**Table A-13: Unit Packaging Weights for Each Format Cluster (Large Size Category)**

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lb)</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	Cement (e.g. paver base sand)	Net content: 50 lbs Product Dimension: 14 in x 20 in x 3 in	0.168
<b>Flexible Bag - Low Barrier (Food)</b>	Frozen tater tots	Net content: 5 lb bag	0.049
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	N/A	N/A
<b>Flexible Bag - Medium Barrier (Food)</b>	Dog food	Net content: 6 lb bag Good feature: chicken and salmon recipe; adult dry dog food	0.098
<b>Flexible Bag - High Barrier (Food)</b>	Ground beef	Net content: 5 lb roll (80 oz) Good feature: 80% Lean / 20% Fat ground beef chuck	0.022
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	Chicken thighs	Net content: 2.75 - 4.0 lb tray Good feature: boneless, skinless chicken thighs	0.088
<b>Tray and Film - High Barrier (Food)</b>	Lasagna meal kit	Net content: 40 oz (family size)	0.172
<b>Tub and Lid - Light Weight (Nonfood)</b>	Dishwasher pods	Net content: 37.1 oz (78 count)	0.364

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lb)</b>
<b>Tub and Lid - Light Weight (Food)</b>	Ice cream	Net content: 48 oz  Good feature: 100% Grade A milk and cream  Product dimensions: 4.13 in x 6.88 in x 4.73 in; 1.88 lbs	0.192
<b>Tub and Lid - Higher Weight (Nonfood)</b>	Quick setting cement	Net content: 10 lbs  Good feature: 10-15 minute setting	0.612
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	Confectionery (e.g., chocolate candy)	Net content: 62 oz jar	0.260
<b>Plastic Jar and Lid - High Preservation (Food)</b>	Jelly (e.g., grape jelly)	Net content: 30 oz	0.312
<b>Injection Molded Pail/Can</b>	Spread (e.g. pistachio cream)	Net content: 40 lbs	2.2
<b>Clamshell (Nonfood)</b>	N/A	N/A	N/A
<b>Clamshell (Food)</b>	N/A	N/A	N/A
<b>Bottle and Cap (Nonfood)</b>	N/A	N/A	N/A
<b>Bottle and Cap (Food)</b>	Cooking oil (e.g. canola oil)	Net content: 48 fl oz  Product dimensions: 4.15 in x 2.91 in x 11.07 in	0.210
<b>Bottle and Cap - High Function (Nonfood)</b>	Liquid laundry detergent	Net content: 250 fl oz (192 Loads)	0.687

<b>Format Cluster</b>	<b>Product Example</b>	<b>Product Information</b>	<b>Total Plastic Weight (lb)</b>
<b>Bottle and Cap - High Preservation (Food)</b>	Bulk sauce (e.g. ketchup)	Net content: 64 oz bottle Product dimensions: 5 in x 3.6 in x 9.8 in; 4.2 lbs	0.198
<b>Bottle and Pump/Trigger (Nonfood)</b>	Liquid non-food spray	Net content: 1 gal Packaging feature: bottle with trigger sprayer	0.451
<b>Tubes and Cap (Nonfood)</b>	Moisturizing cream	N/A	N/A
<b>Rigid Applicators (Nonfood)</b>	Caulk	Net content: 10.1 fl oz Packaging feature: white latex caulk plus silicone Product dimensions: 11.35 in	0.121
<b>Rigid Case (Nonfood)</b>	First aid kit	Weight with 250 items: 1.7 lb Product features: first aid kit, 250 items Product dimensions: 8 in	0.648
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A

**Table A-14: Breakdown (by Sales Value) of FMCG Categories into B2C and B2B**

<b>FMCG Category</b>	<b>B2C Proportion</b>	<b>B2B Proportion</b>
<b>Pet Food/Treats</b>	80%	20%
<b>Personal Care<sup>2</sup></b>	81%	19%
<b>Household Care/Cleaning<sup>3 4</sup></b>	63%	37%
<b>Food and Beverage<sup>5</sup></b>	42%	58%

Table A-15 shows the typical number of plastic components per unit according to data compiled by the contractor across 10 years of packaging design projects.

**Table A-15: Typical Number of Plastic Components by Format**

<b>Format Cluster</b>	<b>Typical Number of Plastic Components</b>	<b>Typical Plastic Components</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	1	1 x PP or PE based film
<b>Flexible Bag - Low Barrier (Food)</b>	1	1 x PP or PE based film
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	2	PP/PE multi layer film and PP reseal PSL PP label
<b>Flexible Bag - Medium Barrier (Food)</b>	1	BOPP/CPP multi layer film
<b>Flexible Bag - High Barrier (Food)</b>	1	PET/ONy/EVOH/CPP multilayer film
<b>Tray and Film - Low Barrier (Nonfood)</b>	3	PET/PP tray and PET/PP/PE Film plus PP label
<b>Tray and Film - Low Barrier (Food)</b>	3	CPET/PP tray and PET/PP/PE Film plus PP label
<b>Tray and Film - High Barrier (food)</b>	3	PP/EVOH/PP multi layer tray and PP/EVOH/PP multi layer film lid plus PP label
<b>Tub and Lid - Light Weight (Nonfood)</b>	3	PP/PET tub, PP/PET lid, PP label
<b>Tub and Lid - Light Weight (Food)</b>	3	PP/PE tub, PP/PET lid, PET film, PP label
<b>Tub and Lid - Higher Weight (Nonfood)</b>	4	PP tub, PP lid, 2 x PP label
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	5	PET/PP jar, PET/PP film, PP lid, 2 x PP label
<b>Plastic Jar and Lid - High Preservation (Food)</b>	5	PP/EVOH/PP jar, PP/EVOH/PP film, PP lid, 2 x PP label
<b>Injection Molded Pail/Can</b>	3	PP pale, PP lid, 2 labels

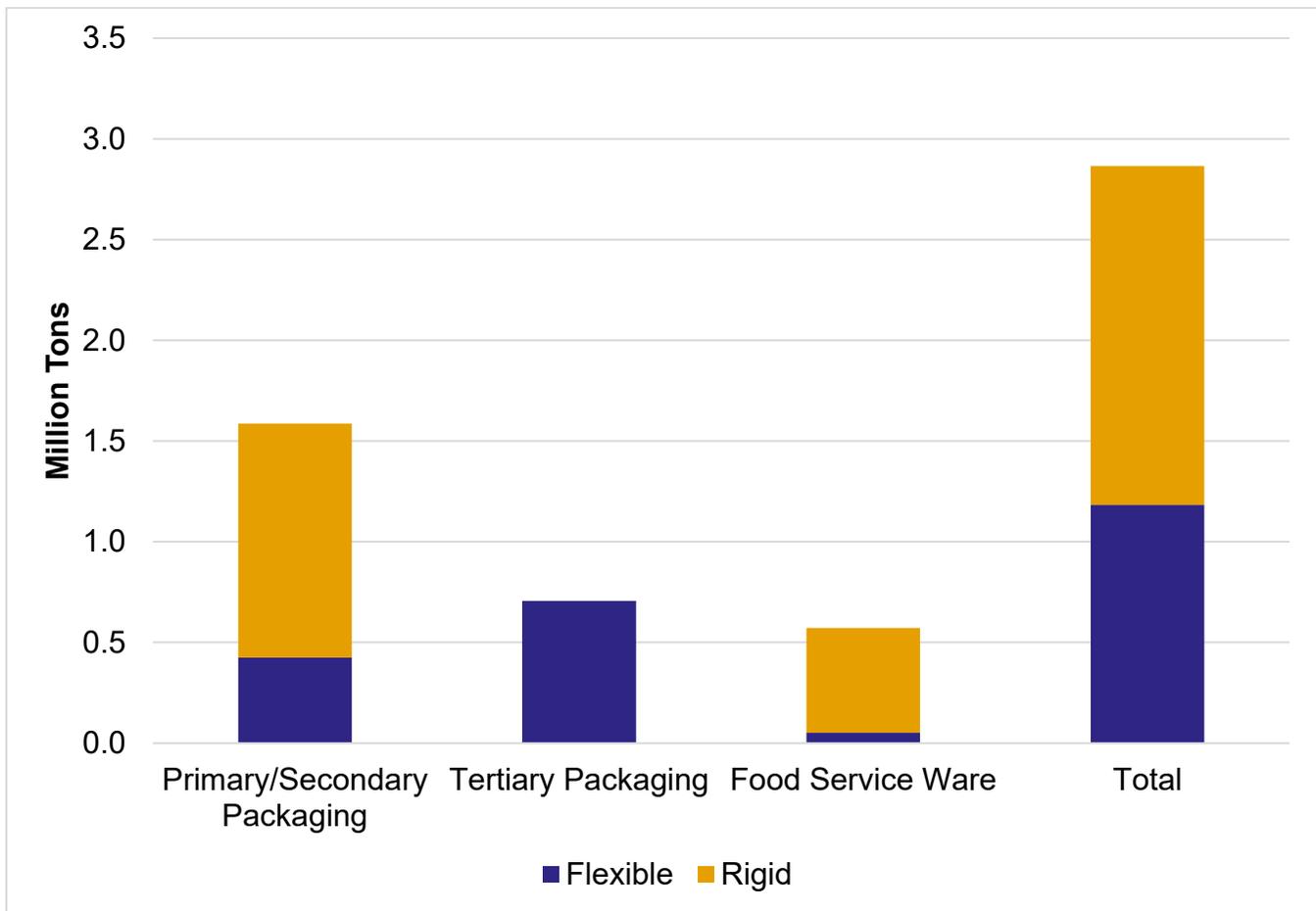
<b>Format Cluster</b>	<b>Typical Number of Plastic Components</b>	<b>Typical Plastic Components</b>
<b>Clam Shell (Nonfood)</b>	3	PET clamshell plus 2 x PP labels
<b>Clam Shell (Food)</b>	3	PET clamshell plus 2 x labels
<b>Bottle and Cap (Nonfood)</b>	3	PP/HDPE bottle, PP cap, 2 x PP labels
<b>Bottle and Cap (Food)</b>	3	PET/PP/HDPE bottle, PP film, PP cap, 2 x PP labels
<b>Bottle and Cap - High Function (Nonfood)</b>	5	PP/HDPE bottle, 2 component cap, 2 labels
<b>Bottle and Cap - High Preservation (Food)</b>	3	bottle (break out barriers), film, cap, 2 labels
<b>Bottle and Pump/Trigger (Nonfood)</b>	9	HDPE PET bottle, PP collar, PP head, PP mechanism x 4 components, 2 x PP labels
<b>Tubes and Cap (Nonfood)</b>	2	HPDE/EVOH/LDPE multi-layer tube, PP cap
<b>Rigid Applicators (Nonfood)</b>	4	PP outer, PP inner component, PP cap, PP label
<b>Rigid case (Nonfood)</b>	3	PP base, PP lid, PP label
<b>Impact Resistant Packaging (Nonfood)</b>	3	individual components of the same materials e.g., PE or PE film
<b>Tertiary Packaging</b>	1	LLDPE based stretch film

**Table A-16: Proportion of Plastic Packaging Used for Durable Goods as a Function of Plastic Packaging Used for Food Packaging (by Weight)**

<b>Category</b>	<b>Durable Goods</b>	<b>Average Unit Weight - Estimated from SRB (lbs of plastic)</b>	<b>Average Plastic Components Per Good - Estimated from SRB</b>
<b>Flexible<sup>6 7</sup></b>	9%	0.11	2
<b>Rigid<sup>8 9</sup></b>	30%	0.22	3

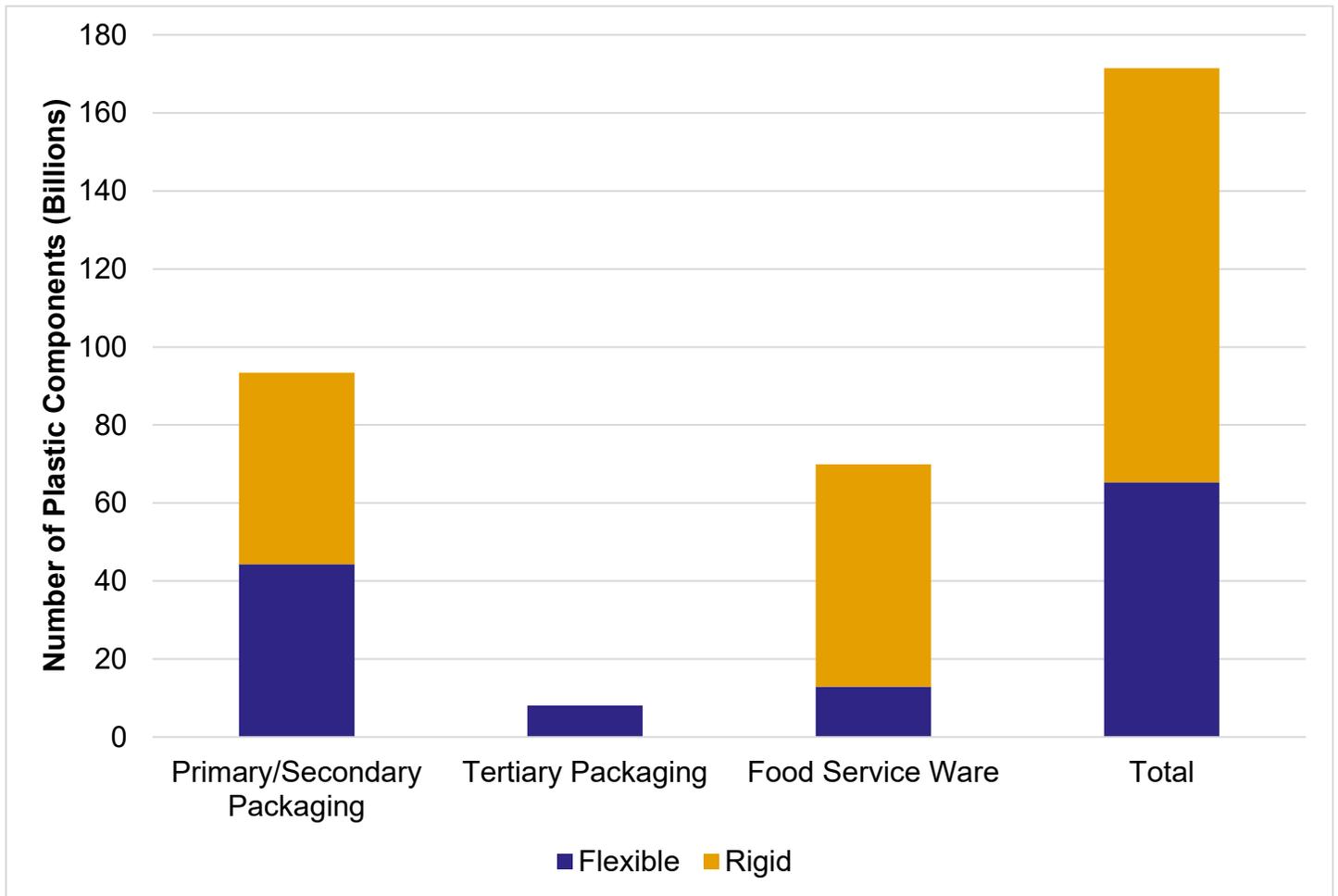
Figure A-1 show the adapted baseline packaging weight (including both packaging and food service ware) broken into rigid and flexible formats and Figure A-2 illustrates it for the adapted baseline number of plastic components. These figures demonstrate that the adapted baseline (including both packaging and food service ware) is split relatively evenly between rigid and flexible formats. It was found that primary and tertiary packaging are dominated by rigid plastic, while tertiary packaging is entirely flexible plastic.<sup>6</sup>

**Figure A-1: Plastic Covered Material Weight by Plastic Covered Material Type, Broken Into Rigid and Flexible**



<sup>6</sup> While there are many types of rigid tertiary packaging on the market, these are almost entirely reusable formats and fall outside the scope of this adapted baseline.

**Figure A-2: Plastic Covered Material Number of Components by Plastic Covered Material Type, Broken Into Rigid and Flexible**



**Table A-17: Plastic Covered Material by Function Cluster (Primary and Secondary Packaging Only)**

<b>Function Cluster</b>	<b>Weight (tons)</b>	<b>Number of Components (Millions)</b>
<b>Baby Care</b>	14,000	600
<b>Menstrual Hygiene</b>	3,300	130
<b>Fragrances</b>	47	<10
<b>Personal Bathing Products</b>	5,600	260
<b>All Other Hair Products</b>	8,400	320
<b>Make-Up</b>	18,000	500
<b>Grooming Products</b>	1,100	45
<b>Oral Hygiene - Excluding Mouthwash</b>	7,900	310
<b>Oral Hygiene - Mouthwash</b>	1,900	91
<b>Anti-Perspirants and Deodorants</b>	27,000	1,000
<b>Skincare</b>	20,000	760
<b>Suncare</b>	1,300	57
<b>Bakery and Cereals</b>	130,000	8,600
<b>Beans and Pulses</b>	2,000	180
<b>Confectionery</b>	59,000	3,600
<b>All other dairy/soy products</b>	280,000	8,000
<b>Milk - Liquid dairy and Soy Milk Products</b>	62,000	6,400
<b>Dried Food</b>	12,000	1,200
<b>Fish and Seafood</b>	2,600	190

<b>Function Cluster</b>	<b>Weight (tons)</b>	<b>Number of Components (Millions)</b>
<b>Fruit and Vegetables</b>	300,000	13,000
<b>Ice Cream</b>	9,700	900
<b>Meat</b>	75,000	4,300
<b>Meat Substitutes</b>	1,100	82
<b>Solid Fats</b>	3,500	73
<b>Liquid Oils</b>	15,000	440
<b>Other Frozen Foods</b>	10,000	1,100
<b>Pasta and Noodles</b>	5,700	560
<b>Prepared Meals</b>	69,000	5,600
<b>Savory and Deli Foods</b>	31,000	1,900
<b>Savory Snacks</b>	48,000	4,700
<b>All Other Seasonings, Dressings, and Sauces</b>	53,000	2,000
<b>Herbs, Spices and Seasonings</b>	39,000	1,400
<b>Soups</b>	6,200	620
<b>Nut-Based Spreads</b>	1,000	30
<b>Other syrups and spreads</b>	16,000	510
<b>Other Household Care Products</b>	33,000	1,100
<b>Dishwashing and Laundry Products</b>	7,500	230
<b>Dry pet food</b>	2,100	350
<b>Moist Pet Food</b>	21,000	1,700

<b>Function Cluster</b>	<b>Weight (tons)</b>	<b>Number of Components (Millions)</b>
<b>Other Pet Care</b>	360	26
<b>Tobacco and Tobacco Products</b>	14,000	580
<b>Durable Goods [Non-FMCG Primary/Secondary (Rigid)]</b>	110,000	4,200
<b>Durable Goods [Non-FMCG Primary/Secondary (Flexible)]</b>	13,000	640

**Table A-18: Plastic Covered Material by Format Cluster**

<b>Format Cluster</b>	<b>Weight (tons)</b>	<b>Number of Components (Millions)</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	810	33
<b>Flexible Bag - Low Barrier (Food)</b>	190,000	9,100
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	32,000	1,300
<b>Flexible Bag - Medium Barrier (Food)</b>	160,000	17,000
<b>Flexible Bag - High Barrier (Food)</b>	6,500	550
<b>Tray and film - Low Barrier (Nonfood)</b>	580	56
<b>Tray and film - Low Barrier (Food)</b>	250,000	14,000
<b>Tray and film - High Barrier (food)</b>	13,000	2,000
<b>Tub and Lid - Light Weight (Nonfood)</b>	200	30
<b>Tub and Lid - Light Weight (Food)</b>	110,000	11,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	21,000	830
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	18,000	740
<b>Plastic jar and lid - High preservation (food)</b>	28,000	740
<b>Injection Molded Pail/Can (Nonfood)</b>	60,000	<10
<b>Clam Shell (Nonfood)</b>	<10	<10
<b>Clam Shell (Food)</b>	160,000	4,900
<b>Bottle and Cap (Nonfood)</b>	65,000	1,900
<b>Bottle and Cap (Food)</b>	260,000	5,200

<b>Format Cluster</b>	<b>Weight (tons)</b>	<b>Number of Components (Millions)</b>
<b>Bottle and Cap - High Function (Nonfood)</b>	8,000	520
<b>Bottle and Cap - High Preservation (Food)</b>	53,000	1,100
<b>Bottle and Pump/Trigger (Nonfood)</b>	3,400	310
<b>Tubes and Cap (Nonfood)</b>	14,000	650
<b>Rigid Applicators (Nonfood)</b>	950	220
<b>Rigid Case (Nonfood)</b>	16,000	230
<b>Impact Resistant Packaging (Nonfood)</b>	9,000	140
<b>Non-FMCG Primary/Secondary (Rigid)</b>	110,000	4,200
<b>Non-FMCG Primary/Secondary (Flexible)</b>	13,000	640
<b>FSW: Utensil</b>	160,000	40,000
<b>FSW: Container - Majority Plastic</b>	240,000	6,100
<b>FSW: Cups</b>	69,000	10,000
<b>FSW: Lids</b>	55,000	11,000
<b>FSW: Film</b>	53,000	2,900
<b>Pallet Wrap</b>	670,000	1,400
<b>Non Dominant Plastic with Plastic Component</b>	16,000	15,000
<b>E-commerce Envelopes</b>	52,000	6,700

# Appendix B. Detailed Reuse and Refill Strategy Evaluation Results

**Table B-19: Technical Feasibility Evaluation of Clusters Against Strategies**

(Yes = strategy was identified technically feasible; No = strategy was not identified as technically feasible)

Cluster Name	Refill in store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
Baby Care	No	Yes	N/A	N/A	N/A	N/A	Yes
Menstrual Hygiene	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Fragrances	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Personal Bathing Products	Yes	Yes	N/A	N/A	N/A	N/A	Yes
All Other Hair Products	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Make-Up	No	Yes	N/A	N/A	N/A	N/A	Yes
Grooming Products	No	Yes	N/A	N/A	N/A	N/A	Yes
Oral Hygiene - Excluding Mouthwash	No	Yes	N/A	N/A	N/A	N/A	Yes
Oral Hygiene - Mouthwash	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Anti Perspirants and Deodorants	No	Yes	N/A	N/A	N/A	N/A	Yes
Skincare	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Suncare	No	Yes	N/A	N/A	N/A	N/A	Yes

<b>Cluster Name</b>	<b>Refill in store B2C</b>	<b>Prefill B2C</b>	<b>Open Loop Reusable FSW</b>	<b>Closed Loop Reusable FSW</b>	<b>B2C E-commerce Transport Packaging</b>	<b>B2B Transport Packaging</b>	<b>Prefill B2B</b>
<b>Bakery and Cereals</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Beans and Pulses</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Confectionery</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>All other dairy/soy products</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Milk - Liquid dairy and soy milk products</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Dried Food</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Fish and Seafood</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Fruit and Vegetables</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Ice Cream</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Meat</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Meat Substitutes</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Solid Fats</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Liquid Oils</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Other Frozen Foods</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Pasta and Noodles</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes

<b>Cluster Name</b>	<b>Refill in store B2C</b>	<b>Prefill B2C</b>	<b>Open Loop Reusable FSW</b>	<b>Closed Loop Reusable FSW</b>	<b>B2C E-commerce Transport Packaging</b>	<b>B2B Transport Packaging</b>	<b>Prefill B2B</b>
<b>Prepared Meals</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Savory and Deli Foods</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>All Other Seasonings, Dressings, and Sauces</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Herbs, Spices and Seasonings</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Soups</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Nut-Based Spreads</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Other syrups and spreads</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Dishwashing and Laundry Products</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Dry pet food</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Moist pet food</b>	No	Yes	N/A	N/A	N/A	N/A	Yes
<b>Other Pet Care</b>	Yes	Yes	N/A	N/A	N/A	N/A	Yes
<b>Tobacco and Tobacco Products</b>	No	Yes	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG primary/secondary (rigid)</b>	No	Yes	N/A	N/A	N/A	N/A	Yes

<b>Cluster Name</b>	<b>Refill in store B2C</b>	<b>Prefill B2C</b>	<b>Open Loop Reusable FSW</b>	<b>Closed Loop Reusable FSW</b>	<b>B2C E-commerce Transport Packaging</b>	<b>B2B Transport Packaging</b>	<b>Prefill B2B</b>
<b>FSW: Utensil</b>	N/A	N/A	Yes	Yes	N/A	N/A	N/A
<b>FSW: Container - majority plastic</b>	N/A	N/A	Yes	Yes	N/A	N/A	N/A
<b>FSW: Cups</b>	N/A	N/A	Yes	Yes	N/A	N/A	N/A
<b>FSW: Lids</b>	N/A	N/A	Yes	Yes	N/A	N/A	N/A
<b>FSW: Film</b>	N/A	N/A	Yes	Yes	N/A	N/A	N/A
<b>Pallet wrap</b>	N/A	N/A	N/A	N/A	N/A	Yes	N/A
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>E-commerce envelopes</b>	N/A	N/A	N/A	N/A	Yes	N/A	N/A

**Table B-20: Reuse and Refill Source Reduction Strategy Prioritization Criteria**

Criteria	Description	Measurement	Weight	Scoring method		
				1	2	3
<b>Proportion of Adapted Baseline</b>	The proportion of total weight or number of plastic components of the cluster. Higher volume Targeting clusters with higher volume reduces the number of strategies that need to be implemented, reducing the overall complexity and cost of reusable packaging systems.	Total share of plastic tonnage or components	1	x<2.7 kilotons per year in good (0.1% of total) or x<500 million plastic components per year in good	2.7<x<27 kilotons per year in good (0.1-1% of total) or 500 million<x<4.1 billion plastic components per year in good	x>27 kttons per year in good (>1% total) or x>4.1 billion plastic components per year in good
<b>Operational Readiness</b>	The extent to which there is precedent for this type of reuse model as applied to each cluster. Can the strategy make use of distribution and store operations, so that returns are easy, safe and do not disturb the retail experience?	If examples exist of this strategy	3	No examples of strategy operating in North America and significant barriers to implementation	Some small examples of strategy operating in North America	Systems already in place and functioning well
<b>Consumer Acceptance</b>	Whether this strategy requires significant change from the consumer.	Consumer change	3	Significant change to consumer experience	Small, surmountable change to consumer experience	Improves or no change to individual consumer experience

**Table B-21: Reuse and Refill Feasibility and Impact Evaluation Scores (Weight Reduction)**

Function Cluster Name	Refill in store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
Baby Care	N/A	11	N/A	N/A	N/A	N/A	16
Menstrual Hygiene	10	10	N/A	N/A	N/A	N/A	16
Fragrances	N/A	10	N/A	N/A	N/A	N/A	16
Personal Bathing Products	11	11	N/A	N/A	N/A	N/A	16
All Other Hair Products	11	14	N/A	N/A	N/A	N/A	16
Make-Up	N/A	14	N/A	N/A	N/A	N/A	17
Grooming Products	N/A	10	N/A	N/A	N/A	N/A	16
Oral Hygiene - Excluding Mouthwash	N/A	11	N/A	N/A	N/A	N/A	16
Oral Hygiene - Mouthwash	10	10	N/A	N/A	N/A	N/A	16
Anti-Perspirants and Deodorants	N/A	11	N/A	N/A	N/A	N/A	17
Skincare	11	14	N/A	N/A	N/A	N/A	17
Suncare	N/A	10	N/A	N/A	N/A	N/A	16
Bakery and Cereals	12	12	N/A	N/A	N/A	N/A	18
Beans and Pulses	10	10	N/A	N/A	N/A	N/A	16
Confectionery	14	14	N/A	N/A	N/A	N/A	18
All Other Dairy/soy products	N/A	15	N/A	N/A	N/A	N/A	18
Milk - Liquid dairy and soy milk products	8	17	N/A	N/A	N/A	N/A	21
Dried Food	11	11	N/A	N/A	N/A	N/A	17
Fish and Seafood	N/A	10	N/A	N/A	N/A	N/A	16
Fruit and Vegetables	18	12	N/A	N/A	N/A	N/A	21
Ice Cream	N/A	11	N/A	N/A	N/A	N/A	17

Function Cluster Name	Refill in store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
<b>Meat</b>	N/A	12	N/A	N/A	N/A	N/A	18
<b>Meat Substitutes</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Solid Fats</b>	N/A	10	N/A	N/A	N/A	N/A	13
<b>Liquid Oils</b>	8	11	N/A	N/A	N/A	N/A	20
<b>Other Frozen Foods</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>Pasta and Noodles</b>	10	10	N/A	N/A	N/A	N/A	17
<b>Prepared Meals</b>	N/A	15	N/A	N/A	N/A	N/A	18
<b>Savory and Deli Foods</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>Savory Snacks</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>All Other Seasonings, Dressings, and Sauces</b>	N/A	11	N/A	N/A	N/A	N/A	18
<b>Herbs, Spices and Seasonings</b>	11	14	N/A	N/A	N/A	N/A	17
<b>Soups</b>	N/A	10	N/A	N/A	N/A	N/A	17
<b>Nut-Based Spreads</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Other syrups and spreads</b>	11	11	N/A	N/A	N/A	N/A	17
<b>Other Household Care Products</b>	N/A	14	N/A	N/A	N/A	N/A	17
<b>Dishwashing and Laundry Products</b>	11	14	N/A	N/A	N/A	N/A	17
<b>Dry pet food</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Moist pet food</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>Other Pet Care</b>	7	10	N/A	N/A	N/A	N/A	16
<b>Tobacco and Tobacco Products</b>	N/A	11	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary (Rigid)</b>	N/A	11	N/A	N/A	N/A	N/A	18

Function Cluster Name	Refill in store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
<b>Non-FMCG Primary/Secondary (Flexible)</b>	N/A	14	N/A	N/A	N/A	N/A	17
<b>FSW: Utensil</b>	N/A	N/A	9	18	N/A	N/A	N/A
<b>FSW: Container - Majority plastic</b>	N/A	N/A	12	18	N/A	N/A	N/A
<b>FSW: Cups</b>	N/A	N/A	12	18	N/A	N/A	N/A
<b>FSW: Lids</b>	N/A	N/A	9	14	N/A	N/A	N/A
<b>FSW: Film</b>	N/A	N/A	9	11	N/A	N/A	N/A
<b>Pallet wrap</b>	N/A	N/A	N/A	N/A	N/A	15	N/A
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>E-commerce envelopes</b>	N/A	N/A	N/A	N/A	14	N/A	N/A

**Table B-22: Reuse and Refill Feasibility and Impact Evaluation Scores (Component Reduction)**

Function Cluster Name	Refill in-store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
<b>Baby Care</b>	N/A	11	N/A	N/A	N/A	N/A	16
<b>Menstrual Hygiene</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Fragrances</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Personal Bathing Products</b>	10	10	N/A	N/A	N/A	N/A	16
<b>All Other Hair Products</b>	10	13	N/A	N/A	N/A	N/A	16
<b>Make-Up</b>	N/A	13	N/A	N/A	N/A	N/A	16
<b>Grooming Products</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Oral Hygiene - Excluding Mouthwash</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Oral Hygiene - Mouthwash</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Anti-Perspirants and Deodorants</b>	N/A	11	N/A	N/A	N/A	N/A	16
<b>Skincare</b>	11	14	N/A	N/A	N/A	N/A	16
<b>Suncare</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Bakery and Cereals</b>	12	12	N/A	N/A	N/A	N/A	17
<b>Beans and Pulses</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Confectionery</b>	14	14	N/A	N/A	N/A	N/A	17
<b>All Other Dairy/Soy Products</b>	N/A	15	N/A	N/A	N/A	N/A	17
<b>Milk - Liquid Dairy and Soy Milk Products</b>	9	18	N/A	N/A	N/A	N/A	20
<b>Dried Food</b>	11	11	N/A	N/A	N/A	N/A	16
<b>Fish and Seafood</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Fruit and Vegetables</b>	18	12	N/A	N/A	N/A	N/A	20
<b>Ice Cream</b>	N/A	11	N/A	N/A	N/A	N/A	16

Function Cluster Name	Refill in-store B2C	Prefill B2C	Open Loop Reusable FSW	Closed Loop Reusable FSW	B2C E-commerce Transport Packaging	B2B Transport Packaging	Prefill B2B
<b>Meat</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>Meat Substitutes</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Solid Fats</b>	N/A	10	N/A	N/A	N/A	N/A	13
<b>Liquid Oils</b>	7	10	N/A	N/A	N/A	N/A	19
<b>Other Frozen Foods</b>	N/A	11	N/A	N/A	N/A	N/A	16
<b>Pasta and Noodles</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Prepared Meals</b>	N/A	15	N/A	N/A	N/A	N/A	17
<b>Savory and Deli Foods</b>	N/A	11	N/A	N/A	N/A	N/A	16
<b>Savory Snacks</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>All Other Seasonings, Dressings, and Sauces</b>	N/A	11	N/A	N/A	N/A	N/A	17
<b>Herbs, Spices and Seasonings</b>	11	14	N/A	N/A	N/A	N/A	16
<b>Soups</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Nut-Based Spreads</b>	N/A	10	N/A	N/A	N/A	N/A	16
<b>Other Syrups and Spreads</b>	10	10	N/A	N/A	N/A	N/A	16
<b>Other Household Care Products</b>	N/A	14	N/A	N/A	N/A	N/A	16
<b>Dishwashing and Laundry Products</b>	10	13	N/A	N/A	N/A	N/A	16
<b>Dry Pet Food</b>	7	10	N/A	N/A	N/A	N/A	16
<b>Moist Pet Food</b>	N/A	11	N/A	N/A	N/A	N/A	16
<b>Other Pet Care</b>	7	10	N/A	N/A	N/A	N/A	16
<b>Tobacco and Tobacco Products</b>	N/A	11	N/A	N/A	N/A	N/A	N/A
<b>Non FMCG Primary/Secondary (Rigid)</b>	N/A	10	N/A	N/A	N/A	N/A	17

<b>Function Cluster Name</b>	<b>Refill in-store B2C</b>	<b>Prefill B2C</b>	<b>Open Loop Reusable FSW</b>	<b>Closed Loop Reusable FSW</b>	<b>B2C E-commerce Transport Packaging</b>	<b>B2B Transport Packaging</b>	<b>Prefill B2B</b>
<b>Non-FMCG Primary/Secondary (Flexible)</b>	N/A	13	N/A	N/A	N/A	N/A	16
<b>FSW: Utensil</b>	N/A	N/A	9	18	N/A	N/A	N/A
<b>FSW: Container - Majority Plastic</b>	N/A	N/A	11	17	N/A	N/A	N/A
<b>FSW: Cups</b>	N/A	N/A	12	18	N/A	N/A	N/A
<b>FSW: Lids</b>	N/A	N/A	9	15	N/A	N/A	N/A
<b>FSW: Film</b>	N/A	N/A	8	11	N/A	N/A	N/A
<b>Pallet Wrap</b>	N/A	N/A	N/A	N/A	N/A	14	N/A
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Ecommerce Envelopes</b>	N/A	N/A	N/A	N/A	14	N/A	N/A

# Appendix C. Detailed Other Source Reduction and Alternative Compliance Criteria

Table C-23: Detailed Criteria for Other Source Reduction and Alternative Compliance Evaluation

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
Composition	Plastic intensity	Degree of plastic use: measured in weight/gram of product/ portion/use	Indicate how much could be stripped out/ potential for lightweighting	Grade weight/grams as follows: 1= High*, ~ = Medium*, -1= Low*; Asterisk (*) denotes intensity based on professional judgment and qualitative experience of how much it could potentially be reduced due to thickness
Composition	Plastic complexity	Number of different plastics used integrally across format	Presence of a mix of types often means complex product requirements which indicates complexity/viability of source reduction	Grade as follows: 1 = Monomaterial, ~ = mix of 2 plastics, but potential to reduce that mix -1 = 3+ plastics
Composition	Componentry	Number of separate plastic components, e.g., lid, applicator, sleeve, airflow valve	Indicate how many could be eliminated/ potential for simplification	Grade as follows: 1 = 3+ plastic components ~ = 2 plastic components, -1 = 1 single plastic component

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
Composition	Layers and barriers	Presence of integral/non-separable layers of plastic/nonplastic materials for moisture, oxygen, light, gas, aroma, leaks, grease	Indicates complexity/viability of source reduction	Grade as follows: 1= no preservation-critical requirement/and/or excessive barrier applied that could be eliminated, -1 = performance critical
Composition	Additives and fillers	Presence/ need for additives and fillers	Indicates complexity/viability of source reduction	Grade as follows: 1= no performance-critical requirement/and/or excessive additive/filler applied that could be eliminated, -1 = performance critical
Composition	Recycled content	Whether it includes none, partial or 100%	Indicates potential to increase recycled content	Grade as follows: 1= no recycled content and no compromise to food safety, ~ = partial recycled content possible in theory, -1 = 100% recycled content already achieved possible in theory
Structure/Design	Headspace	Presence/need for headspace	Indicates potential for right-sizing	Grade as follows: 1 = excessive headspace and/or headspace allocated for strategic volumetric pricing, -1 = no available headspace to reduce due to being performance/production critical

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
Structure/Design	Structural integrity	Strength and integrity needed to adequately protect the product in the supply chain and throughout usage	Indicates how much could be stripped out/ potential for lightweighting	Grade as follows: 1 = high integrity needed, ~ = medium integrity needed, -1 = low integrity needed
Manufacture and logistics	Manufacture flexibility	Degree to which the manufacture method lends itself to adaptations for source reduction with minimal disruption	Indicates potential for changes to design in terms of cost and complexity	Grade as follows: +1 = high flexibility (e.g., manual, flexible packaging line), ~ = adaptations/tooling changes needed, -1 = new machinery needed
Manufacture and logistics	Preservation/shelf stability/sterilization method	Presence/need for specific, material-dependent process, e.g., hot or cold filling, retort, A-Septic, pasteurization, or none	Indicates suitability of certain plastics and hence potential for source reduction	Grade as follows: +1 = not a challenge, ~ = alternative method possible, -1 = challenge to source reduction
Manufacture and logistics	Shelf-life	Longevity of preservation required/expected due to product nature, supply chain complexity/location/retailer demands/frequency of use/purchase	Covered in barriers/preservation method	N/A
Manufacture and logistics	Water content	Degree to which product contains water	Indicates potential for concentration	Grade as follows: 1 = 50%+ water content, ~ = <50% water content, -1 = Little/no water

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
User and Market	Out of factory thermal requirements (supply chain, cooking, dishwashing)	Presence/need for thermal resistance during storage (cold-chain) cooking (oven, microwave) and dishwashing	Indicates presence of particular barriers/suitability of certain plastics and hence potential for source reduction	Grade as follows: 1 = no performance-critical requirement or less plastic-intensive alternative available, -1= performance critical (in terms of functionality/accessibility/category norm)
User and Market	Opening assistance	Presence/need for integral opening assistance such as extended pull-tabs, ribs, flaps	Indicates potential for elimination/simplification -NB non-integral features covered in componentry	Grade as follows: 1 = excessive feature with less plastic-intensive alternative available, ~ = no performance-critical requirement, -1= performance critical (in terms of functionality/accessibility/category norm)
User and Market	Reseal	Presence/need for integral reseal capability such as zipper storage bags, label, lid	Indicates potential for elimination/simplification -NB non-integral features covered in componentry	Grade as follows: 1 = excessive feature with less plastic-intensive alternative available, ~ = no performance-critical requirement, -1= performance critical (in terms of functionality/accessibility/category norm)
User and Market	Dispense assistance	Presence/need for dispense capability such as dosing, application	Indicates potential for elimination/simplification -NB non-integral features covered in componentry	Grade as follows: 1 = excessive feature with less plastic-intensive alternative available, ~ = no performance-critical requirement, -1= performance critical (in terms of functionality/accessibility/category norm)

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
User and Market	Tamper evidence	Presence/need for tamper evidence such as plastic tamper bands	Indicates potential for elimination/simplification - NB non-integral features covered in componentry	Grade as follows: 1 = excessive feature with less plastic-intensive alternative available, ~ = no excessive performance-critical plastic feature, -1= performance critical (in terms of functionality/accessibility/category norm)
Regulatory	Requirement for food grade compliance	Presence/need for plastic-intense design elements or specific material/composition requirements relating to food grade compliance	Indicates complexity/viability of source reduction	Grade as follows: 1 = no regulatory requirement, -1= regulatory requirement that impacts plastic intensity/choice/composition
Regulatory	Communication/info requirements	Amount of information needed on packaging surface/digital - may not be worth grading	Indicates potential for packaging size reduction to enable space for sufficient communication	Grade as follows: 1 = high level of communication required on pack/via digital ~ = medium level of communication required on pack/via digital -1 = low level of communication required on pack/via digital
Regulatory	Pharmaceutical-grade standards	Presence/need for plastic-intense design elements or specific material/composition requirements relating to Pharmaceutical grade standards Is OTC included?	Indicates complexity/viability of source reduction	Grade as follows: 1 = no regulatory requirement, -1= regulatory requirement that potentially impacts plastic intensity/choice/composition

Category	Technical Criterion	Description	Potential Impact of Criterion	Scoring Metrics
Regulatory	Requirement for child resistance/safety	Presence/need for plastic-intensive child-safety capability such as locking mechanism may not be worth grading - either needed or not, no excessive child resistance in market	Indicates complexity/viability of source reduction	Grade as follows: 1 = no regulatory requirement, -1= regulatory requirement that potentially impacts plastic intensity/choice/composition
Regulatory	Requires hazardous goods compliance	Presence/need for plastic-intense design elements or specific material/composition requirements relating to hazardous goods	Indicates complexity/viability of source reduction	Grade as follows: 1 = no regulatory requirement, -1= regulatory requirement that potentially impacts plastic intensity/choice/composition

**Table C-24: Other Source Reduction Evaluation Scores Against Format Clusters**

<b>Packaging Format Cluster</b>	<b>Technical score (higher is better for source reduction)</b>
<b>Bottle and Cap - High function (Nonfood)</b>	14
<b>Bottle and Pump/Trigger (Nonfood)</b>	14
<b>Bottle and Cap (Nonfood)</b>	12
<b>Rigid Applicators (Nonfood)</b>	11
<b>Injection Molded Pail/Can</b>	10
<b>Clam Shell (Nonfood)</b>	10
<b>Rigid Case (Nonfood)</b>	10
<b>Impact Resistant Packaging (Nonfood)</b>	9
<b>Non-FMCG Primary/Secondary (rigid)</b>	9
<b>Tub and Lid - Higher Weight (Nonfood)</b>	8
<b>Bottle and Cap (Food)</b>	8
<b>Non-FMCG Primary/Secondary (Flexible)</b>	7
<b>Pallet wrap</b>	7
<b>E-commerce Envelopes</b>	7
<b>Tub and Lid - Light Weight (Nonfood)</b>	6
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	6
<b>Clam Shell (Food)</b>	6
<b>Flexible Bag - Low Barrier (Nonfood)</b>	5
<b>Tray and film - Low Barrier (Nonfood)</b>	5
<b>Tubes and Cap (Nonfood)</b>	4
<b>FSW: Container - Minority Plastic*</b>	4
<b>FSW: Film*</b>	4
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	3

<b>Packaging Format Cluster</b>	<b>Technical score (higher is better for source reduction)</b>
<b>Tray and Film - Low Barrier (Food)</b>	3
<b>Bottle and Cap - High Preservation (Food)</b>	2
<b>FSW: Utensil*</b>	2
<b>FSW: Container - Majority Plastic*</b>	2
<b>FSW: Lids*</b>	2
<b>Flexible Bag - Low Barrier (Food)</b>	1
<b>Plastic Jar and Lid - High preservation (Food)</b>	1
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	0
<b>Flexible Bag - Medium Barrier (Food)</b>	-2
<b>Tub and Lid - Light Weight (Food)</b>	-2
<b>Tray and Film - High Barrier (food)</b>	-3
<b>Flexible Bag - High Barrier (Food)</b>	-7

## Appendix D. Source Reduction Impact Potential

Table D-25: Source Reduction Weight Impact Potential Per Unit

Format	Elimination	Material Substitution	Concentration	Right Sizing	Lightweighting	Large Format	Format Change	Recycled Content
Flexible Bag - Low Barrier (Nonfood)	0%	98%	0%	3%	20%	20%	0%	100%
Flexible Bag - Low Barrier (Food)	0%	98%	0%	18%	20%	40%	0%	0%
Flexible Bag - Medium Barrier (Nonfood)	0%	0%	0%	0%	15%	20%	0%	0%
Flexible Bag - Medium Barrier (Food)	0%	98%	0%	18%	20%	33%	0%	0%
Flexible Bag - High Barrier (Food)	0%	0%	0%	0%	10%	10%	0%	0%
Tray and Film - Low Barrier (Nonfood)	0%	95%	0%	3%	8%	28%	0%	100%
Tray and Film - Low Barrier (Food)	0%	100%	0%	0%	11%	33%	0%	0%
Tray and Film - High Barrier (Food)	0%	0%	0%	0%	8%	28%	0%	0%
Tub and Lid - Light Weight (Nonfood)	18%	95%	0%	3%	8%	8%	0%	97%
Tub and Lid - Light Weight (Food)	0%	0%	0%	0%	8%	20%	0%	0%
Tub and Lid - Higher Weight (Nonfood)	0%	0%	0%	3%	8%	28%	0%	100%
Plastic Jar and Lid - Minimum Preservation (Food)	0%	90%	0%	3%	8%	33%	0%	90%

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large Format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - High Preservation (Food)</b>	0%	0%	0%	0%	11%	15%	0%	0%
<b>Injection Molded Pail/Can Clamshell (Nonfood)</b>	0%	85%	0%	0%	8%	28%	0%	100%
<b>Clamshell (Food)</b>	0%	95%	0%	3%	20%	15%	0%	100%
<b>Bottle and Cap (Nonfood)</b>	0%	75%	0%	2%	11%	40%	0%	100%
<b>Bottle and Cap (Food)</b>	0%	45%	0%	0%	11%	20%	0%	95%
<b>Bottle and Cap - High Function (Nonfood)</b>	2%	75%	50%	5%	15%	8%	50%	100%
<b>Bottle and Cap - High Preservation (Food)</b>	0%	0%	0%	0%	20%	38%	0%	0%
<b>Bottle and Pump/Trigger (Nonfood)</b>	8%	65%	0%	2%	15%	33%	0%	100%
<b>Tubes and Cap (Nonfood)</b>	0%	94%	0%	0%	8%	40%	0%	100%
<b>Rigid Applicators (Nonfood)</b>	2%	75%	0%	0%	8%	10%	0%	100%
<b>Rigid Case (Nonfood)</b>	0%	50%	0%	0%	15%	23%	0%	100%
<b>Impact Resistant Packaging (Nonfood)</b>	0%	100%	0%	0%	0%	33%	0%	100%
<b>Non-FMCG Primary/Secondary - Rigid</b>	0%	0%	0%	0%	0%	35%	0%	100%
<b>Non-FMCG Primary/Secondary - Flexible</b>	0%	0%	0%	0%	0%	15%	0%	0%
<b>Food Service Ware - Utensils</b>	100%	100%	0%	0%	0%	15%	0%	0%
<b>Food Service Ware - Containers</b>	100%	50%	0%	0%	0%	28%	0%	0%
<b>Food Service Ware - Cups</b>	0%	0%	0%	0%	0%	23%	0%	0%
<b>Food Service Ware - Lids</b>	0%	50%	0%	0%	0%	25%	0%	0%

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large Format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Food Service Ware - Films and Flexibles</b>	0%	100%	0%	0%	50%	35%	0%	0%
<b>B2B Transport Packaging</b>	0%	100%	0%	0%	0%	33%	0%	38%
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	0%	0%	0%	0%	0%	28%	0%	0%
<b>B2C E-Commerce Transport Packaging</b>	0%	100%	0%	0%	8%	28%	0%	100%

**Table D-26: Source Reduction Component Impact Potential Per Unit**

<b>Format</b>	<b>Plastic Components per unit</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	1	0%	100%	0%	0%	0%	69%	0%
<b>Flexible Bag - Low Barrier (Food)</b>	1	0%	100%	0%	0%	0%	77%	0%
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	2	0%	100%	0%	0%	0%	59%	0%
<b>Flexible Bag - Medium Barrier (Food)</b>	1	0%	100%	0%	0%	0%	63%	0%
<b>Flexible Bag - High Barrier (Food)</b>	1	0%	0%	0%	0%	0%	0%	0%
<b>Tray and Film - Low Barrier (Nonfood)</b>	3	0%	50%	0%	0%	0%	63%	0%
<b>Tray and Film - Low Barrier (Food)</b>	3	0%	50%	0%	0%	0%	77%	0%
<b>Tray and Film - High Barrier (Food)</b>	3	0%	0%	0%	0%	0%	64%	0%
<b>Tub and Lid - Light Weight (Nonfood)</b>	3	30%	100%	0%	0%	0%	60%	0%
<b>Tub and Lid - Light Weight (Food)</b>	3	0%	100%	0%	0%	0%	77%	0%
<b>Tub and Lid - Higher Weight (Nonfood)</b>	4	0%	100%	0%	0%	0%	65%	0%
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	5	0%	20%	0%	0%	0%	69%	0%

<b>Format</b>	<b>Plastic Components per unit</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - High Preservation (Food)</b>	5	0%	0%	0%	0%	0%	60%	0%
<b>Injection Molded Pail/Can</b>	3	0%	75%	0%	0%	0%	64%	0%
<b>Clamshell (Nonfood)</b>	3	0%	100%	0%	0%	0%	69%	0%
<b>Clamshell (Food)</b>	3	0%	100%	0%	0%	0%	69%	0%
<b>Bottle and Cap (Nonfood)</b>	3	0%	10%	0%	0%	0%	77%	0%
<b>Bottle and Cap (Food)</b>	3	0%	33%	0%	0%	0%	69%	0%
<b>Bottle and Cap - High Function (Nonfood)</b>	5	20%	10%	20%	0%	0%	0%	0%
<b>Bottle and Cap - High Preservation (Food)</b>	3	0%	0%	0%	0%	0%	77%	0%
<b>Bottle and Pump/Trigger (Nonfood)</b>	9	30%	10%	0%	0%	0%	60%	0%
<b>Tubes and Cap (Nonfood)</b>	2	0%	50%	0%	0%	0%	77%	0%
<b>Rigid Applicators (Nonfood)</b>	4	30%	50%	0%	0%	0%	0%	0%
<b>Rigid Case (Nonfood)</b>	3	0%	75%	0%	0%	0%	69%	0%
<b>Impact Resistant Packaging (Nonfood)</b>	3	0%	100%	0%	0%	0%	63%	0%
<b>Non-FMCG Primary/Secondary - Rigid</b>	3	0%	0%	0%	0%	0%	83%	0%
<b>Non-FMCG Primary/Secondary - Flexible</b>	2	0%	0%	0%	0%	0%	60%	0%

<b>Format</b>	<b>Plastic Components per unit</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Recycled Content</b>
<b>Food Service Ware - Utensils</b>	1	100%	100%	0%	0%	0%	59%	0%
<b>Food Service Ware - Containers</b>	2	100%	100%	0%	0%	0%	83%	0%
<b>Food Service Ware - Cups</b>	2	0%	0%	0%	0%	0%	69%	0%
<b>Food Service Ware - Lids</b>	1	0%	100%	0%	0%	0%	65%	0%
<b>Food Service Ware - Films and Flexibles</b>	1	0%	100%	0%	0%	0%	69%	0%
<b>B2B Transport Packaging</b>	1	0%	100%	0%	0%	0%	63%	0%
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	1	0%	0%	0%	0%	0%	83%	0%
<b>B2C E-Commerce Transport Packaging</b>	2	0%	100%	0%	0%	0%	64%	0%

## Appendix E. Pathway Results

This section details the results showing weight, plastic component reductions, and market penetration by format cluster, function cluster, and source reduction strategy.

### Pathway A - Reuse and Refill Strategies

Table E-27: Plastic Component Reduction for Pathway A - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-Loop FSW	Consumer Goods	Closed-Loop FSW	Consumer Goods	Closed-Loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
FSW: Container - Majority Plastic	832,045,065	N/A	1,348,486,829	N/A	1,348,486,829	N/A
All Other Dairy/Soy Products	N/A	N/A	N/A	56,740,724	N/A	412,659,812
Non-FMCG Primary/Secondary - Rigid	N/A	N/A	N/A	106,925,641	N/A	777,641,022
FSW: Utensil	5,421,615,219	N/A	8,786,755,699	N/A	8,786,755,699	N/A
Bakery and Cereals	N/A	N/A	N/A	61,218,121	N/A	445,222,699
Savory Snacks	N/A	N/A	N/A	33,573,226	N/A	244,168,920
Prepared Meals	N/A	N/A	N/A	39,477,215	N/A	287,107,015
Meat	N/A	N/A	N/A	30,556,296	N/A	222,227,606
Milk - Liquid Dairy & Soy Milk Products	N/A	N/A	N/A	45,527,442	N/A	331,108,672
Confectionery	N/A	N/A	N/A	25,380,733	N/A	184,587,149
Other Household Care Products	N/A	N/A	N/A	3,908,175	N/A	28,423,091
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	14,259,393	N/A	103,704,674
Herbs, Spices and Seasonings	N/A	N/A	N/A	10,010,783	N/A	72,805,697
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	N/A

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-Loop FSW	Consumer Goods	Closed-Loop FSW	Consumer Goods	Closed-Loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
Other Frozen Foods	N/A	N/A	N/A	7,610,572	N/A	55,349,613
Other Syrups and Spreads	N/A	N/A	N/A	3,596,893	N/A	26,159,224
Liquid Oils	N/A	N/A	N/A	3,127,186	N/A	22,743,170
Ice Cream	N/A	N/A	N/A	6,385,938	N/A	46,443,182
Pasta and Noodles	N/A	N/A	N/A	3,985,600	N/A	28,986,185
Dishwashing and Laundry Products	N/A	N/A	N/A	809,986	N/A	5,890,806
Soups	N/A	N/A	N/A	4,405,763	N/A	32,041,911
Dried Food	N/A	N/A	N/A	8,480,967	N/A	61,679,763
Fruit and Vegetables	N/A	N/A	N/A	90,042,853	N/A	654,857,111
FSW: Cups	1,371,697,092	N/A	2,223,095,288	N/A	2,223,095,288	N/A
<b>Total Component Reduction for 2027</b>	<b>7,625,357,376</b>	<b>N/A</b>	<b>12,358,337,817</b>	<b>556,023,507</b>	<b>12,358,337,817</b>	<b>4,043,807,320</b>

**Table E-27.1: Combined Plastic Component Reduction Totals for Pathway A - Reuse and Refill Strategies, by Year**

<b>Year</b>	<b>Component Reduction</b>
2027	7,625,357,376
2030	12,914,361,323
2032	16,402,145,137

**Table E-28: Weight Reduction (Tons) for Pathway A - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year**

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
FSW: Container - Majority Plastic	33,427.36	N/A	54,175.37	N/A	54,175.37	N/A
All Other Dairy/Soy Products	N/A	N/A	N/A	4,546	N/A	30,078
Non-FMCG Primary/Secondary - Rigid	N/A	N/A	N/A	2,880	N/A	19,056
FSW: Utensil	22,159	N/A	35,912	N/A	35,912	N/A
Bakery and Cereals	N/A	N/A	N/A	2,074	N/A	13,723
Savory Snacks	N/A	N/A	N/A	763	N/A	5,049
Prepared Meals	N/A	N/A	N/A	1,110	N/A	7,341
Meat	N/A	N/A	N/A	1,207	N/A	7,983
Milk - Liquid Dairy and Soy Milk Products	N/A	N/A	N/A	987	N/A	6,528
Confectionery	N/A	N/A	N/A	941	N/A	6,226
Other Household Care Products	N/A	N/A	N/A	339	N/A	2,243
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	848	N/A	5,611
Herbs, Spices and Seasonings	N/A	N/A	N/A	619	N/A	4,093
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	
Other Frozen Foods	N/A	N/A	N/A	165	N/A	1,090
Other Syrups and Spreads	N/A	N/A	N/A	253	N/A	1,675
Liquid Oils	N/A	N/A	N/A	239	N/A	1,580
Ice Cream	N/A	N/A	N/A	155	N/A	1,025
Pasta and Noodles	N/A	N/A	N/A	91	N/A	600
Dishwashing and Laundry Products	N/A	N/A	N/A	76	N/A	503

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
Soups	N/A	N/A	N/A	100	N/A	661
Dried Food	N/A	N/A	N/A	193	N/A	1,275
Fruit and Vegetables	N/A	N/A	N/A	4,733	N/A	31,309
FSW: Cups	9,388	N/A	15,216	N/A	15,216	N/A
<b>Total Weight Reduction Per Strategy</b>	<b>64,975</b>	<b>N/A</b>	<b>105,304</b>	<b>22,318</b>	<b>105,304</b>	<b>147,649</b>

**Table E-28.1: Combined Weight Reduction Totals (Tons) for Pathway A - Reuse and Refill Strategies, by Year**

<b>Year</b>	<b>Weight Reduction (Tons)</b>
2027	64,975
2030	127,622
2032	252,952

**Table E-29: Market Penetration for Pathway A - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year**

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
Baby Care	N/A	N/A	N/A	N/A	N/A	N/A
Menstrual Hygiene	N/A	N/A	N/A	N/A	N/A	N/A
Fragrances	N/A	N/A	N/A	N/A	N/A	N/A
Personal Bathing Products	N/A	N/A	N/A	N/A	N/A	N/A
All Other Hair Products	N/A	N/A	N/A	N/A	N/A	N/A
Make-Up	N/A	N/A	N/A	N/A	N/A	N/A
Grooming Products	N/A	N/A	N/A	N/A	N/A	N/A
Oral Hygiene - Excluding Mouthwash	N/A	N/A	N/A	N/A	N/A	N/A
Oral Hygiene - Mouthwash	N/A	N/A	N/A	N/A	N/A	N/A
Anti-Perspirants & Deodorants	N/A	N/A	N/A	N/A	N/A	N/A
Skincare	N/A	N/A	N/A	N/A	N/A	N/A
Suncare	N/A	N/A	N/A	N/A	N/A	N/A
Bakery and Cereals	N/A	N/A	N/A	3%	N/A	25%
Beans and Pulses	N/A	N/A	N/A	N/A	N/A	N/A
Confectionery	N/A	N/A	N/A	3%	N/A	25%
All Other Dairy/Soy Products	N/A	N/A	N/A	3%	N/A	25%
Milk - Liquid Dairy and Soy Milk Products	N/A	N/A	N/A	3%	N/A	25%
Dried Food	N/A	N/A	N/A	3%	N/A	25%
Fish and Seafood	N/A	N/A	N/A	N/A	N/A	N/A
Fruit and Vegetables	N/A	N/A	N/A	3%	N/A	25%
Ice Cream	N/A	N/A	N/A	3%	N/A	25%
Meat	N/A	N/A	N/A	3%	N/A	25%

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
Meat Substitutes	N/A	N/A	N/A	N/A	N/A	N/A
Solid Fats	N/A	N/A	N/A	N/A	N/A	N/A
Liquid Oils	N/A	N/A	N/A	3%	N/A	25%
Other Frozen Foods	N/A	N/A	N/A	3%	N/A	25%
Pasta and Noodles	N/A	N/A	N/A	3%	N/A	25%
Prepared Meals	N/A	N/A	N/A	3%	N/A	25%
Savory and Deli Foods	N/A	N/A	N/A	N/A	N/A	N/A
Savory Snacks	N/A	N/A	N/A	3%	N/A	25%
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	3%	N/A	25%
Herbs, Spices and Seasonings	N/A	N/A	N/A	3%	N/A	25%
Soups	N/A	N/A	N/A	3%	N/A	25%
Nut-Based Spreads	N/A	N/A	N/A	N/A	N/A	N/A
Other Syrups and Spreads	N/A	N/A	N/A	3%	N/A	25%
Other Household Care Products	N/A	N/A	N/A	3%	N/A	25%
Dishwashing and Laundry Products	N/A	N/A	N/A	3%	N/A	25%
Dry Pet Food	N/A	N/A	N/A	N/A	N/A	N/A
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	N/A
Other Pet Care	N/A	N/A	N/A	N/A	N/A	N/A
Tobacco and Tobacco Products	N/A	N/A	N/A	N/A	N/A	N/A
Non-FMCG Primary/Secondary - Rigid	N/A	N/A	N/A	3%	N/A	25%
Non-FMCG Primary/Secondary (Flexible)	N/A	N/A	N/A	N/A	N/A	N/A

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
FSW: Utensil	29%	N/A	47%	N/A	47%	N/A
FSW: Container - Majority Plastic	29%	N/A	47%	N/A	47%	N/A
FSW: Cups	29%	N/A	47%	N/A	47%	N/A
FSW: Lids	N/A	N/A	N/A	N/A	N/A	N/A
FSW: Film	N/A	N/A	N/A	N/A	N/A	N/A
Pallet Wrap	N/A	N/A	N/A	N/A	N/A	N/A
Non-Majority Plastic with Plastic Component	N/A	N/A	N/A	N/A	N/A	N/A
E-Commerce Envelopes	N/A	N/A	N/A	N/A	N/A	N/A

## Pathway A - Other Source Reduction Strategies

**Table E-30: 2027 Plastic Component Reduction for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2027				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	170,690	N/A	N/A	170,690
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	522,635	N/A	N/A	522,635
Bottle and Cap (Nonfood)	Packaging	N/A	6,296,739	N/A	N/A	6,296,739
Rigid Applicators (Nonfood)	Packaging	N/A	1,388,430	N/A	N/A	1,388,430
Rigid Case (Nonfood)	Packaging	N/A	2,826,265	N/A	N/A	2,826,265
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	376,761	N/A	N/A	376,761
Impact Resistant Packaging (Nonfood)	Packaging	N/A	15,209,935	N/A	N/A	15,209,935
Bottle and Cap (Food)	Packaging	N/A	28,769,492	N/A	N/A	28,769,492
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	10,368,000	N/A	N/A	10,368,000
Pallet Wrap	Transport	N/A	69,452,508	N/A	N/A	69,452,508
E-Commerce Envelopes	Transport	N/A	335,688,664	N/A	N/A	335,688,664
Clam Shell (Food)	Packaging	N/A	82,304,158	N/A	N/A	82,304,158
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	N/A	N/A	N/A	N/A	N/A
FSW: Film	FSW	N/A	142,692,978	N/A	N/A	142,692,978
Tubes and Cap (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	120,800,517	N/A	N/A	120,800,517

2027						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
FSW: Container - Majority Plastic	FSW	152,145,158	534,029,505	N/A	N/A	686,174,664
FSW: Utensil	FSW	1,982,759,204	6,404,312,229	N/A	N/A	8,387,071,433
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A
<b>Plastic Component Reduction Totals for 2027</b>		<b>2,134,904,362</b>	<b>7,755,209,506</b>	<b>N/A</b>	<b>N/A</b>	<b>9,890,113,868</b>

**Table E-30.1: 2027 Combined Plastic Component Reduction Totals for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2027				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	269,033,622	N/A	N/A	269,033,622
Transport	N/A	405,141,172	N/A	N/A	405,141,172
FSW	2,134,904,362	7,081,034,712	N/A	N/A	9,215,939,075

**Table E-31: 2030 Plastic Component Reduction for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2030				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	341,380	N/A	N/A	341,380
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	1,045,270	N/A	N/A	1,045,270
Bottle and Cap (Nonfood)	Packaging	N/A	9,445,108	N/A	N/A	9,445,108
Rigid Applicators (Nonfood)	Packaging	N/A	2,776,861	N/A	N/A	2,776,861
Rigid Case (Nonfood)	Packaging	N/A	16,957,588	N/A	N/A	16,957,588
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	452,113	N/A	N/A	452,113
Impact Resistant Packaging (Nonfood)	Packaging	N/A	19,012,419	N/A	N/A	19,012,419
Bottle and Cap (Food)	Packaging	N/A	28,769,492	N/A	N/A	28,769,492
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	41,471,999	N/A	N/A	41,471,999
Pallet Wrap	Transport	N/A	138,905,016	N/A	N/A	138,905,016
E-Commerce Envelopes	Transport	N/A	1,007,065,991	N/A	N/A	1,007,065,991
Clam Shell (Food)	Packaging	N/A	329,216,633	N/A	N/A	329,216,633
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	451,483,632	N/A	N/A	N/A	451,483,632
FSW: Film	FSW	N/A	713,464,889	N/A	N/A	713,464,889
Tubes and Cap (Nonfood)	Packaging	N/A		N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	604,002,584	N/A	N/A	604,002,584

2030						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
FSW: Container - Majority Plastic	FSW	273,861,285	581,194,504	N/A	N/A	855,055,789
FSW: Utensil	FSW	3,568,966,567	14,434,487,006	N/A	N/A	18,003,453,573
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A
<b>Plastic Component Reduction Totals for 2030</b>		<b>4,294,311,484</b>	<b>17,928,608,854</b>	<b>N/A</b>	<b>N/A</b>	<b>22,222,920,339</b>

**Table E-31.1: 2030 Combined Plastic Component Reduction Totals for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2030				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	451,483,632	1,053,491,448	N/A	N/A	1,504,975,080
Transport	N/A	1,145,971,007	N/A	N/A	1,145,971,007
FSW	3,842,827,852	15,729,146,400	N/A	N/A	19,571,974,252

**Table E-32: 2032 Plastic Component Reduction for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

2032						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	341,380	N/A	N/A	341,380
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	1,045,270	N/A	N/A	1,045,270
Bottle and Cap (Nonfood)	Packaging	N/A	9,445,108	N/A	N/A	9,445,108
Rigid Applicators (Nonfood)	Packaging	N/A	2,776,861	N/A	N/A	2,776,861
Rigid Case (Nonfood)	Packaging	N/A	16,957,588	N/A	N/A	16,957,588
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	452,113	N/A	N/A	452,113
Impact Resistant Packaging (Nonfood)	Packaging	N/A	19,012,419	N/A	N/A	19,012,419
Bottle and Cap (Food)	Packaging	N/A	28,769,492	N/A	N/A	28,769,492
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	41,471,999	N/A	N/A	41,471,999
Pallet Wrap	Transport	N/A	138,905,016	N/A	N/A	138,905,016
E-Commerce Envelopes	Transport	N/A	1,007,065,991	N/A	N/A	1,007,065,991
Clam Shell (Food)	Packaging	N/A	329,216,633	N/A	N/A	329,216,633
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	1,003,296,961	N/A	N/A	N/A	1,003,296,961
FSW: Film	FSW	N/A	713,464,889	N/A	N/A	713,464,889
Tubes and Cap (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	604,002,584	N/A	N/A	604,002,584
FSW: Container - Majority Plastic	FSW	608,580,633	547,722,570	N/A	N/A	1,156,303,203
FSW: Utensil	FSW	7,931,036,816	15,227,590,687	N/A	N/A	23,158,627,504

2032						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A
<b>Plastic Component Reduction Totals for 2032</b>		<b>9,542,914,410</b>	<b>18,688,240,601</b>	<b>N/A</b>	<b>N/A</b>	<b>28,231,155,011</b>

**Table E-32.1: 2032 Combined Plastic Component Reduction Totals for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2032				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	1,003,296,961	1,053,491,448	N/A	N/A	2,056,788,409
Transport	N/A	1,145,971,007	N/A	N/A	1,145,971,007
FSW	8,539,617,449	16,488,778,146	N/A	N/A	25,028,395,596

**Table E-33: 2027 Weight Reduction (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2027				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	109	124	794	1,027
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	292	287	1,841	2,420
Bottle and Cap (Nonfood)	Packaging	N/A	4,787	1,656	14,634	21,077
Rigid Applicators (Nonfood)	Packaging	N/A	35	17	225	277
Rigid Case (Nonfood)	Packaging	N/A	398	N/A	N/A	398
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	12,531	888	11,615	25,034
Impact Resistant Packaging (Nonfood)	Packaging	N/A	2,812	N/A	762	3,573
Bottle and Cap (Food)	Packaging	N/A	5,629	5,488	N/A	11,116
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	237	5,202	5,439
Pallet Wrap	Transport	N/A	32,776	N/A	N/A	32,776
E-Commerce Envelopes	Transport	N/A	5,080	N/A	N/A	5,080
Clam Shell (Food)	Packaging	N/A	7,315	N/A	N/A	7,315
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	N/A	N/A	N/A	N/A	N/A
FSW: Film	FSW	N/A	2,587	N/A	N/A	2,587
Tubes and Cap (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	12,429	N/A	N/A	12,429
FSW: Container - Majority Plastic	FSW	11,987	20,497	N/A	N/A	32,484
FSW: Utensil	FSW	7,946	25,665	N/A	N/A	33,611
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2027</b>		<b>19,933</b>	<b>132,941</b>	<b>8,697</b>	<b>63,248</b>	<b>224,819</b>

**Table E-33.1: 2027 Combined Weight Reduction Totals (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2027				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	46,337	8,697	63,248	118,282
Transport	N/A	37,856	N/A	N/A	37,856
FSW	19,933	48,749	N/A	N/A	68,682

**Table E-34: 2030 Weight Reduction (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

2030						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	218	120	768	1,105
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	585	276	1,769	2,629
Bottle and Cap (Nonfood)	Packaging	N/A	7,181	1,589	14,040	22,810
Rigid Applicators (Nonfood)	Packaging	N/A	70	17	216	303
Rigid Case (Nonfood)	Packaging	N/A	2,387	N/A	N/A	2,387
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	15,037	840	10,988	26,865
Impact Resistant Packaging (Nonfood)	Packaging	N/A	3,515	N/A	672	4,187
Bottle and Cap (Food)	Packaging	N/A	5,629	5,918	N/A	11,547
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	232	5,204	5,436
Pallet Wrap	Transport	N/A	65,551	N/A	33,185	98,737
E-Commerce Envelopes	Transport	N/A	15,240	N/A	N/A	15,240
Clam Shell (Food)	Packaging	N/A	29,261	N/A	N/A	29,261
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	6,060	N/A	N/A	N/A	6,060
FSW: Film	FSW	N/A	12,933	N/A	N/A	12,933
Tubes and Cap (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	62,145	N/A	N/A	62,145
FSW: Container - Majority Plastic	FSW	21,576	21,816	N/A	N/A	43,392
FSW: Utensil	FSW	14,303	57,846	N/A	N/A	72,149
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2030</b>		<b>41,938</b>	<b>299,413</b>	<b>8,991</b>	<b>95,018</b>	<b>445,361</b>

**Table E-34.1: 2030 Combined Weight Reduction Totals (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2030				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	6,060	126,026	8,991	61,833	202,910
Transport	N/A	80,791	N/A	33,185	113,977
FSW	35,879	92,595	N/A	N/A	128,474

**Table E-35: 2032 Weight Reduction (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2032				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	218	120	768	1,105
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	585	276	1,769	2,629
Bottle and Cap (Nonfood)	Packaging	N/A	7,181	1,589	14,040	22,810
Rigid Applicators (Nonfood)	Packaging	N/A	70	17	216	303
Rigid Case (Nonfood)	Packaging	N/A	2,387	N/A	N/A	2,387
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	15,037	840	10,988	26,865
Impact Resistant Packaging (Nonfood)	Packaging	N/A	3,515	N/A	672	4,187
Bottle and Cap (Food)	Packaging	N/A	5,629	5,918	N/A	11,547
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	237	5,202	5,439
Pallet Wrap	Transport	N/A	65,551	N/A	33,185	98,737
E-Commerce Envelopes	Transport	N/A	15,240	N/A	N/A	15,240
Clam Shell (Food)	Packaging	N/A	29,261	N/A	N/A	29,261
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
FSW: Cups	FSW	13,466	N/A	N/A	N/A	13,466
FSW: Film	FSW	N/A	12,933	N/A	N/A	12,933
Tubes and Cap (Nonfood)	Packaging	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	Packaging	N/A	62,145	N/A	N/A	62,145
FSW: Container - Majority Plastic	FSW	47,947	19,179	N/A	N/A	67,125
FSW: Utensil	FSW	31,783	61,024	N/A	N/A	92,808
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2032</b>		<b>93,196</b>	<b>299,954</b>	<b>8,996</b>	<b>95,017</b>	<b>497,163</b>

**Table E-35.1: 2032 Combined Weight Reduction Totals (Tons) for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2032				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	13,466	126,026	8,996	61,831	210,320
Transport	N/A	80,791	N/A	33,185	113,977
FSW	79,730	93,136	N/A	N/A	172,866

**Table E-36: 2027 Market Penetration for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2027				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	5%	26%	26%	56%
Bottle and Cap - High Function (Nonfood)	N/A	5%	26%	26%	56%
Bottle and Cap (Nonfood)	N/A	10%	26%	26%	61%
Rigid Applicators (Nonfood)	N/A	5%	26%	26%	56%
Rigid Case (Nonfood)	N/A	5%	N/A	N/A	5%
Injection Molded Pail/Can (Nonfood)	N/A	25%	26%	26%	76%
Impact Resistant Packaging (Nonfood)	N/A	32%	3%	13%	47%
Bottle and Cap (Food)	N/A	5%	20%	N/A	25%
Tub and Lid - Higher Weight (Nonfood)	N/A	5%	15%	26%	46%
Pallet Wrap	N/A	5%	N/A	N/A	5%
E-Commerce Envelopes	N/A	10%	N/A	N/A	10%
Clam Shell (Food)	N/A	5%	N/A	N/A	5%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
Flexible Bag - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Film	N/A	5%	N/A	N/A	5%
Tubes and Cap (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Cups	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	N/A	5%	N/A	N/A	5%
Flexible Bag - Medium Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Container - Majority Plastic	5%	18%	N/A	N/A	23%
FSW: Utensil	5%	17%	N/A	N/A	22%

**Table E-37: 2030 Market Penetration for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2030				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	10%	26%	26%	61%
Bottle and Cap - High Function (Nonfood)	N/A	10%	26%	26%	61%
Bottle and Cap (Nonfood)	N/A	15%	26%	26%	66%
Rigid Applicators (Nonfood)	N/A	10%	26%	26%	61%
Rigid Case (Nonfood)	N/A	30%	N/A	N/A	30%
Injection Molded Pail/Can (Nonfood)	N/A	30%	26%	26%	81%
Impact Resistant Packaging (Nonfood)	N/A	40%	3%	13%	55%
Bottle and Cap (Food)	N/A	5%	22%	N/A	27%
Tub and Lid - Higher Weight (Nonfood)	N/A	20%	15%	26%	61%
Pallet Wrap	N/A	10%	N/A	15%	25%
E-Commerce Envelopes	N/A	30%	N/A	N/A	30%
Clam Shell (Food)	N/A	20%	N/A	N/A	20%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
Flexible Bag - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Film	N/A	25%	N/A	N/A	25%
Tubes and Cap (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Cups	9%	N/A	N/A	N/A	9%
Tray and Film - Low Barrier (Food)	N/A	25%	N/A	N/A	25%
Flexible Bag - Medium Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Container - Majority Plastic	9%	20%	N/A	N/A	29%
FSW: Utensil	9%	40%	N/A	N/A	49%

**Table E-38: 2032 Market Penetration for Pathway A - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2032				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	10%	26%	26%	61%
Bottle and Cap - High Function (Nonfood)	N/A	10%	26%	26%	61%
Bottle and Cap (Nonfood)	N/A	15%	26%	26%	66%
Rigid Applicators (Nonfood)	N/A	10%	26%	26%	61%
Rigid Case (Nonfood)	N/A	30%	N/A	N/A	30%
Injection Molded Pail/Can (Nonfood)	N/A	30%	26%	26%	81%
Impact Resistant Packaging (Nonfood)	N/A	40%	3%	13%	55%
Bottle and Cap (Food)	N/A	5%	22%	N/A	27%
Tub and Lid - Higher Weight (Nonfood)	N/A	20%	15%	26%	61%
Pallet Wrap	N/A	10%	N/A	15%	25%
E-Commerce Envelopes	N/A	30%	N/A	N/A	30%
Clam Shell (Food)	N/A	20%	N/A	N/A	20%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
Flexible Bag - Low Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Film	N/A	25%	N/A	N/A	25%
Tubes and Cap (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Cups	20%	N/A	N/A	N/A	20%
Tray and Film - Low Barrier (Food)	N/A	25%	N/A	N/A	25%
Flexible Bag - Medium Barrier (Nonfood)	N/A	N/A	N/A	N/A	N/A
FSW: Container - Majority Plastic	20%	20%	N/A	N/A	40%
FSW: Utensil	20%	48%	N/A	N/A	68%

## Pathway B - Reuse and Refill Strategies

Table E-39: Plastic Component Reduction for Pathway B - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
FSW: Container - Majority Plastic	832,045,065	N/A	2,438,752,776	N/A	2,438,752,776	N/A
All Other Dairy/Soy Products	N/A	N/A	N/A	165,063,925	N/A	825,319,624
Non-FMCG Primary/Secondary - Rigid	N/A	N/A	N/A	311,056,409	N/A	1,555,282,044
FSW: Utensil	5,421,615,219	N/A	15,890,941,159	N/A	15,890,941,159	N/A
Bakery and Cereals	N/A	N/A	N/A	178,089,080	N/A	890,445,398
Savory Snacks	N/A	N/A	N/A	97,667,568	N/A	488,337,840
Prepared Meals	N/A	N/A	N/A	114,842,806	N/A	574,214,029
Meat	N/A	N/A	N/A	88,891,042	N/A	444,455,212
Milk - Liquid Dairy and Soy Milk Products	N/A	N/A	N/A	132,443,469	N/A	662,217,343
Confectionery	N/A	N/A	N/A	73,834,860	N/A	369,174,298
Other Household Care Products	N/A	N/A	N/A	11,369,236	N/A	56,846,181
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	41,481,870	N/A	207,409,348
Herbs, Spices and Seasonings	N/A	N/A	N/A	29,122,279	N/A	145,611,394
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	N/A
Other Frozen Foods	N/A	N/A	N/A	22,139,845	N/A	110,699,227
Other Syrups and Spreads	N/A	N/A	N/A	10,463,689	N/A	52,318,447
Liquid Oils	N/A	N/A	N/A	9,097,268	N/A	45,486,340

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
Ice Cream	N/A	N/A	N/A	18,577,273	N/A	92,886,364
Pasta and Noodles	N/A	N/A	N/A	11,594,474	N/A	57,972,371
Dishwashing and Laundry Products	N/A	N/A	N/A	1,767,242	N/A	8,836,209
Soups	N/A	N/A	N/A	12,816,764	N/A	64,083,822
Dried Food	N/A	N/A	N/A	24,671,905	N/A	123,359,525
Fruit and Vegetables	N/A	N/A	N/A	261,942,844	N/A	1,309,714,222
FSW: Cups	1,371,697,092	N/A	4,020,491,478	N/A	4,020,491,478	N/A
<b>Total Plastic Component Reduction for 2027</b>	<b>7,625,357,376</b>	<b>N/A</b>	<b>22,350,185,413</b>	<b>1,616,933,848</b>	<b>22,350,185,413</b>	<b>8,084,669,238</b>

**Table E-39.1 Combined Plastic Component Reduction Totals for Pathway B - Reuse and Refill Strategies, by Year**

<b>Year</b>	<b>Component Reduction</b>
2027	7,625,357,376
2030	23,967,119,260
2032	30,434,854,651

**Table E-40: Weight Reduction (Tons) for Pathway B - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year**

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
FSW: Container - Majority Plastic	33,461	N/A	98,076	N/A	98,076	N/A
All Other Dairy/Soy Products	N/A	N/A	N/A	13,239	N/A	66,197
Non-FMCG Primary/Secondary - Rigid	N/A	N/A	N/A	8,388	N/A	41,940
FSW: Utensil	22,181	N/A	65,014	N/A	65,014	N/A
Bakery and Cereals	N/A	N/A	N/A	6,041	N/A	30,203
Savory Snacks	N/A	N/A	N/A	2,222	N/A	11,112
Prepared Meals	N/A	N/A	N/A	3,231	N/A	16,156
Meat	N/A	N/A	N/A	3,514	N/A	17,569
Milk - Liquid Dairy and Soy Milk Products	N/A	N/A	N/A	2,873	N/A	14,367
Confectionery	N/A	N/A	N/A	2,741	N/A	13,703
Other Household Care Products	N/A	N/A	N/A	986	N/A	4,932
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	2,470	N/A	12,348
Herbs, Spices and Seasonings	N/A	N/A	N/A	1,802	N/A	9,008
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	N/A
Other Frozen Foods	N/A	N/A	N/A	480	N/A	2,400
Other Syrups and Spreads	N/A	N/A	N/A	737	N/A	3,686
Liquid Oils	N/A	N/A	N/A	696	N/A	3,478
Ice Cream	N/A	N/A	N/A	451	N/A	2,256
Pasta and Noodles	N/A	N/A	N/A	264	N/A	1,320
Dishwashing and Laundry Products	N/A	N/A	N/A	166	N/A	830

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
Soups	N/A	N/A	N/A	291	N/A	1,455
Dried Food	N/A	N/A	N/A	561	N/A	2,805
Fruit and Vegetables	N/A	N/A	N/A	13,781	N/A	68,907
FSW: Cups	9,398	N/A	27,546	N/A	27,546	N/A
<b>Total Weight Reduction Per Strategy</b>	<b>65,040</b>	<b>N/A</b>	<b>190,635</b>	<b>64,935</b>	<b>190,635</b>	<b>324,674</b>

**Table E-40.1: Combined Weight Reduction Totals (Tons) for Pathway B - Reuse and Refill Strategies, by Year**

<b>Year</b>	<b>Total</b>
2027	65,040
2030	255,570
2032	515,310

**Table E-41: Market Penetration for Pathway B - Reuse and Refill Strategies, by Function Cluster, Strategy, and Year**

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
Baby Care	N/A	N/A	N/A	N/A	N/A	N/A
Menstrual Hygiene	N/A	N/A	N/A	N/A	N/A	N/A
Fragrances	N/A	N/A	N/A	N/A	N/A	N/A
Personal Bathing Products	N/A	N/A	N/A	N/A	N/A	N/A
All Other Hair Products	N/A	N/A	N/A	N/A	N/A	N/A
Make-Up	N/A	N/A	N/A	N/A	N/A	N/A
Grooming Products	N/A	N/A	N/A	N/A	N/A	N/A
Oral Hygiene - Excluding Mouthwash	N/A	N/A	N/A	N/A	N/A	N/A
Oral Hygiene - Mouthwash	N/A	N/A	N/A	N/A	N/A	N/A
Anti-Perspirants and Deodorants	N/A	N/A	N/A	N/A	N/A	N/A
Skincare	N/A	N/A	N/A	N/A	N/A	N/A
Suncare	N/A	N/A	N/A	N/A	N/A	N/A
Bakery and Cereals	N/A	N/A	N/A	8%	N/A	40%
Beans and Pulses	N/A	N/A	N/A	N/A	N/A	N/A
Confectionery	N/A	N/A	N/A	8%	N/A	40%
All Other Dairy/Soy Products	N/A	N/A	N/A	8%	N/A	40%
Milk - Liquid Dairy and Soy Milk Products	N/A	N/A	N/A	8%	N/A	40%
Dried Food	N/A	N/A	N/A	8%	N/A	40%
Fish and Seafood	N/A	N/A	N/A	N/A	N/A	N/A
Fruit and Vegetables	N/A	N/A	N/A	8%	N/A	40%
Ice Cream	N/A	N/A	N/A	8%	N/A	40%

Year	2027		2030		2032	
Strategy	Reusable FSW	Prefill	Reusable FSW	Prefill	Reusable FSW	Prefill
	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods	Closed-loop FSW	Consumer Goods
Sales Channel	B2C	B2B	B2C	B2B	B2C	B2B
Function Cluster						
Meat	N/A	N/A	N/A	8%	N/A	40%
Meat Substitutes	N/A	N/A	N/A	N/A	N/A	N/A
Solid Fats	N/A	N/A	N/A	N/A	N/A	N/A
Liquid Oils	N/A	N/A	N/A	8%	N/A	40%
Other Frozen Foods	N/A	N/A	N/A	8%	N/A	40%
Pasta and Noodles	N/A	N/A	N/A	8%	N/A	40%
Prepared Meals	N/A	N/A	N/A	8%	N/A	40%
Savory and Deli Foods	N/A	N/A	N/A	N/A	N/A	N/A
Savory Snacks	N/A	N/A	N/A	8%	N/A	40%
All Other Seasonings, Dressings, and Sauces	N/A	N/A	N/A	8%	N/A	40%
Herbs, Spices and Seasonings	N/A	N/A	N/A	8%	N/A	40%
Soups	N/A	N/A	N/A	8%	N/A	40%
Nut-Based Spreads	N/A	N/A	N/A	N/A	N/A	N/A
Other Syrups and Spreads	N/A	N/A	N/A	8%	N/A	40%
Other Household Care Products	N/A	N/A	N/A	8%	N/A	40%
Dishwashing and Laundry Products	N/A	N/A	N/A	6%	N/A	30%
Dry pet food	N/A	N/A	N/A	N/A	N/A	N/A
Moist Pet Food	N/A	N/A	N/A	N/A	N/A	N/A
Other Pet Care	N/A	N/A	N/A	N/A	N/A	N/A
Tobacco and Tobacco Products	N/A	N/A	N/A	N/A	N/A	N/A
Non-FMCG Primary/Secondary (Rigid)	N/A	N/A	N/A	8%	N/A	40%

<b>Year</b>	<b>2027</b>		<b>2030</b>		<b>2032</b>	
<b>Strategy</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>	<b>Reusable FSW</b>	<b>Prefill</b>
	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>	<b>Closed-loop FSW</b>	<b>Consumer Goods</b>
<b>Sales Channel</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>	<b>B2C</b>	<b>B2B</b>
<b>Function Cluster</b>						
Non-FMCG Primary/Secondary (Flexible)	N/A	N/A	N/A	N/A	N/A	N/A
FSW: Utensil	29%	N/A	85%	N/A	85%	N/A
FSW: Container - Majority Plastic	29%	N/A	85%	N/A	85%	N/A
FSW: Cups	29%	N/A	85%	N/A	85%	N/A
FSW: Lids	N/A	N/A	N/A	N/A	N/A	N/A
FSW: Film	N/A	N/A	N/A	N/A	N/A	N/A
Pallet Wrap	N/A	N/A	N/A	N/A	N/A	N/A
Non-Majority Plastic with Plastic Component	N/A	N/A	N/A	N/A	N/A	N/A
E-Commerce Envelopes	N/A	N/A	N/A	N/A	N/A	N/A

## Pathway B - Other Source Reduction Strategies

**Table E-42: 2027 Plastic Component Reduction for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2027				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	34,138	N/A	N/A	34,138
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	104,527	N/A	N/A	104,527
Bottle and Cap (Nonfood)	Packaging	N/A	1,259,348	N/A	N/A	1,259,348
Rigid Applicators (Nonfood)	Packaging	N/A	277,686	N/A	N/A	277,686
Rigid Case (Nonfood)	Packaging	N/A	2,826,265	N/A	N/A	2,826,265
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	75,352	N/A	N/A	75,352
Impact Resistant Packaging (Nonfood)	Packaging	N/A	7,129,657	N/A	N/A	7,129,657
Bottle and Cap (Food)	Packaging	N/A	5,753,898	N/A	N/A	5,753,898
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	10,368,000	N/A	N/A	10,368,000
Pallet Wrap	Transport	N/A	83,343,010	N/A	N/A	83,343,010
E-Commerce Envelopes	Transport	N/A	335,688,664	N/A	N/A	335,688,664
Clam Shell (Food)	Packaging	N/A	82,304,158	N/A	N/A	82,304,158
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	1,481,601	N/A	N/A	1,481,601
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	501,417	N/A	N/A	501,417
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	465,044	N/A	N/A	465,044
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	1,648,525	N/A	N/A	1,648,525
FSW: Film	FSW	N/A	142,692,978	N/A	N/A	142,692,978
Tubes and Cap (Nonfood)	Packaging	N/A	3,265,500	N/A	N/A	3,265,500
Tray and Film - Low Barrier (Food)	Packaging	N/A	120,800,517	N/A	N/A	120,800,517
FSW: Container - Majority Plastic	FSW	152,145,158	504,361,200	N/A	N/A	656,506,358
FSW: Utensil	FSW	1,982,759,204	6,781,036,478	N/A	N/A	8,763,795,682

2027						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A
<b>Plastic Component Reduction Totals for 2027</b>		2,134,904,362	8,085,417,961	0	0	10,220,322,323

**Table E-42.1: 2027 Pathway B: Combined Plastic Component Reduction Totals for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2027				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	238,295,632	N/A	N/A	238,295,632
Transport	N/A	419,031,673	N/A	N/A	419,031,673
FSW	2,134,904,362	7,428,090,655	N/A	N/A	9,562,995,018

**Table E-43: 2030 Plastic Component Reduction for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	2030				Total
		Elimination	Material Substitution	Lightweighting	Recycled Content	
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	170,690	N/A	N/A	170,690
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	522,635	N/A	N/A	522,635
Bottle and Cap (Nonfood)	Packaging	N/A	3,148,369	N/A	N/A	3,148,369
Rigid Applicators (Nonfood)	Packaging	N/A	1,388,430	N/A	N/A	1,388,430
Rigid Case (Nonfood)	Packaging	N/A	2,826,265	N/A	N/A	2,826,265
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	75,352	N/A	N/A	75,352
Impact Resistant Packaging (Nonfood)	Packaging	N/A	9,506,210	N/A	N/A	9,506,210
Bottle and Cap (Food)	Packaging	N/A	28,769,492	N/A	N/A	28,769,492
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	10,368,000	N/A	N/A	10,368,000
Pallet Wrap	Transport	N/A	83,343,010	N/A	N/A	83,343,010
E-Commerce Envelopes	Transport	N/A	335,688,664	N/A	N/A	335,688,664
Clam Shell (Food)	Packaging	N/A	82,304,158	N/A	N/A	82,304,158
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	1,481,601	N/A	N/A	1,481,601
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	501,417	N/A	N/A	501,417
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	465,044	N/A	N/A	465,044
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	1,648,525	N/A	N/A	1,648,525
FSW: Film	FSW	N/A	142,692,978	N/A	N/A	142,692,978
Tubes and Cap (Nonfood)	Packaging	N/A	8,163,750	N/A	N/A	8,163,750
Tray and Film - Low Barrier (Food)	Packaging	N/A	120,800,517	N/A	N/A	120,800,517

2030						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
FSW: Container - Majority Plastic	FSW	152,145,158	608,200,270	N/A	N/A	760,345,428
FSW: Utensil	FSW	1,982,759,204	7,722,847,100	N/A	N/A	9,705,606,304
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A
<b>Plastic Component Reduction Totals for 2030</b>		<b>2,134,904,362</b>	<b>9,164,912,475</b>	<b>0</b>	<b>0</b>	<b>11,299,816,837</b>

**Table E-43.1: 2030 Combined Plastic Component Reduction Totals for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2030				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	272,140,454	N/A	N/A	272,140,454
Transport	N/A	419,031,673	N/A	N/A	419,031,673
FSW	2,134,904,362	8,473,740,348	N/A	N/A	10,608,644,710

**Table E-44: 2032 Plastic Component Reduction for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

2032						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	170,690	N/A	N/A	170,690
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	522,635	N/A	N/A	522,635
Bottle and Cap (Nonfood)	Packaging	N/A	3,148,369	N/A	N/A	3,148,369
Rigid Applicators (Nonfood)	Packaging	N/A	1,388,430	N/A	N/A	1,388,430
Rigid Case (Nonfood)	Packaging	N/A	2,826,265	N/A	N/A	2,826,265
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	75,352	N/A	N/A	75,352
Impact Resistant Packaging (Nonfood)	Packaging	N/A	9,506,210	N/A	N/A	9,506,210
Bottle and Cap (Food)	Packaging	N/A	28,769,492	N/A	N/A	28,769,492
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	10,368,000	N/A	N/A	10,368,000
Pallet Wrap	Transport	N/A	83,343,010	N/A	N/A	83,343,010
E-Commerce Envelopes	Transport	N/A	335,688,664	N/A	N/A	335,688,664
Clam Shell (Food)	Packaging	N/A	82,304,158	N/A	N/A	82,304,158
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	1,481,601	N/A	N/A	1,481,601
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	501,417	N/A	N/A	501,417
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	465,044	N/A	N/A	465,044
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	1,648,525	N/A	N/A	1,648,525
FSW: Film	FSW	N/A	142,692,978	N/A	N/A	142,692,978
Tubes and Cap (Nonfood)	Packaging	N/A	8,163,750	N/A	N/A	8,163,750
Tray and Film - Low Barrier (Food)	Packaging	N/A	120,800,517	N/A	N/A	120,800,517
FSW: Container - Majority Plastic	FSW	152,145,158	682,371,035	N/A	N/A	834,516,193
FSW: Utensil	FSW	1,982,759,204	8,853,019,846	N/A	N/A	10,835,779,050
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	N/A	N/A

2032						
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Plastic Component Reduction Totals for 2032		2,134,904,362	10,369,255,986	0	0	12,504,160,348

**Table E 44.1: 2032 Combined Plastic Component Reduction Totals for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

2032						
Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total	
Packaging	N/A	272,140,454	N/A	N/A	272,140,454	
Transport	N/A	419,031,673	N/A	N/A	419,031,673	
FSW	2,134,904,362	9,678,083,859	N/A	N/A	11,812,988,221	

**Table E-45: 2027 Weight Reduction (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

		2027				
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle + Pump/Trigger (Nonfood)	Packaging	N/A	22	127	816	965
Bottle + Cap High Function (Nonfood)	Packaging	N/A	58	296	1,898	2,252
Bottle + Cap (Nonfood)	Packaging	N/A	957	1,764	15,583	18,304
Rigid Applicators (Nonfood)	Packaging	N/A	7	18	232	257
Rigid Case (Nonfood)	Packaging	N/A	398	N/A	N/A	398
IM Pale/Can (Nonfood)	Packaging	N/A	2,506	1,080	14,122	17,708
Impact Resistant Packaging (Nonfood)	Packaging	N/A	1,318	N/A	952	2,270
Bottle and Cap (Food)	Packaging	N/A	1,126	5,589	N/A	6,714
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	237	5,202	5,439
Pallet Wrap	Transport	N/A	39,331	N/A	6,932	46,263
E-Commerce Envelopes	Transport	N/A	5,080	N/A	N/A	5,080
Clam Shell (Food)	Packaging	N/A	7,315	N/A	N/A	7,315
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	812	N/A	N/A	812
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	9	N/A	N/A	9
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	27	N/A	N/A	27
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	39	N/A	N/A	39
FSW: Film	FSW	N/A	2,587	N/A	N/A	2,587
Tubes and Cap (Nonfood)	Packaging	N/A	260	N/A	N/A	260
Tray and Film - Low Barrier (Food)	Packaging	N/A	12,429	N/A	N/A	12,429
FSW: Container - Majority Plastic	FSW	11,987	19,358	N/A	N/A	31,345
FSW: Utensil	FSW	7,946	27,175	N/A	N/A	35,121
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2027</b>		<b>19,933</b>	<b>120,814</b>	<b>9,110</b>	<b>73,913</b>	<b>223,769</b>

**Table E-45.1: 2027 Combined Weight Reduction Totals (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2027				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	27,283	9,110	66,981	<b>103,374</b>
Transport	N/A	44,411	N/A	6,932	<b>51,343</b>
FSW	19,933	49,120	N/A	N/A	<b>69,053</b>

**Table E-46: 2030 Weight Reduction (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

		2030				
Format Cluster	Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	109	243	764	1,116
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	292	563	1,770	2,625
Bottle and Cap (Nonfood)	Packaging	N/A	2,394	3,379	14,805	20,577
Rigid Applicators (Nonfood)	Packaging	N/A	35	34	221	289
Rigid Case (Nonfood)	Packaging	N/A	398	N/A	N/A	398
IM Pale/Can (Nonfood)	Packaging	N/A	2,506	2,117	13,858	18,481
Impact Resistant Packaging (Nonfood)	Packaging	N/A	1,757	N/A	896	2,653
Bottle and Cap (Food)	Packaging	N/A	5,629	10,760	N/A	16,389
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	464	5,144	5,609
Pallet Wrap	Transport	N/A	39,331	N/A	60,078	99,409
E-Commerce Envelopes	Transport	N/A	5,080	N/A	10,058	15,138
Clam Shell (Food)	Packaging	N/A	7,315	2,934	N/A	10,249
Plastic Jar and Lid Min Preservation (Food)	Packaging	N/A	812	517	N/A	1,328
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	9	4	N/A	13
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	27	12	N/A	39
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	39	N/A	N/A	39
FSW: Film	FSW	N/A	2,587	9,829	N/A	12,416
Tubes and Cap (Nonfood)	Packaging	N/A	651	N/A	N/A	651
Tray and Film - Low Barrier (Food)	Packaging	N/A	12,429	2,598	N/A	15,027
FSW: Container - Majority Plastic	FSW	11,987	23,344	N/A	N/A	35,331
FSW: Utensil	FSW	7,946	30,949	N/A	N/A	38,895
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2030</b>		19,933	135,691	33,454	135,770	324,848

**Table E-46.1: 2030 Combined Weight Reduction Totals (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

Aggregated Group	2030				Total
	Elimination	Material Substitution	Lightweighting	Recycled Content	
Packaging	N/A	34,401	23,624	65,634	123,659
Transport	N/A	44,411	N/A	70,136	114,547
FSW	19,933	56,880	9,829	N/A	86,642

**Table E-47: 2032 Weight Reduction (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	Aggregated Group	Elimination	2032			
			Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	Packaging	N/A	109	243	764	1,116
Bottle and Cap - High Function (Nonfood)	Packaging	N/A	292	563	1,770	2,625
Bottle and Cap (Nonfood)	Packaging	N/A	2,394	3,379	14,805	20,578
Rigid Applicators (Nonfood)	Packaging	N/A	35	34	221	290
Rigid Case (Nonfood)	Packaging	N/A	398	N/A	N/A	398
Injection Molded Pail/Can (Nonfood)	Packaging	N/A	2,506	2,117	13,858	18,481
Impact Resistant Packaging (Nonfood)	Packaging	N/A	1,757	N/A	896	2,653
Bottle and Cap (Food)	Packaging	N/A	5,629	10,760	N/A	16,389
Tub and Lid - Higher Weight (Nonfood)	Packaging	N/A	N/A	464	5,144	5,608
Pallet Wrap	Transport	N/A	39,331	N/A	60,078	99,409
E-Commerce Envelopes	Transport	N/A	5,080	N/A	10,058	15,138
Clam Shell (Food)	Packaging	N/A	7,315	2,934	N/A	10,249
Plastic Jar and Lid - Minimum Preservation (Food)	Packaging	N/A	812	517	N/A	1,329
Tub and Lid - Light Weight (Nonfood)	Packaging	N/A	9	4	N/A	13
Tray and Film - Low Barrier (Nonfood)	Packaging	N/A	27	12	N/A	39
Flexible Bag - Low Barrier (Nonfood)	Packaging	N/A	39	N/A	N/A	39
FSW: Film	FSW	N/A	2,587	9,829	N/A	12,416
Tubes and Cap (Nonfood)	Packaging	N/A	651	N/A	N/A	651
Tray and Film - Low Barrier (Food)	Packaging	N/A	12,429	2,598	N/A	15,027
FSW: Container - Majority Plastic	FSW	11,987	26,191	N/A	N/A	38,178
FSW: Utensil	FSW	7,946	35,478	N/A	N/A	43,424
Non-FMCG Primary/Secondary - Rigid	Packaging	N/A	N/A	N/A	28,176	28,176
<b>Weight Reduction per Strategy for 2032</b>		<b>19,933</b>	<b>143,067</b>	<b>33,454</b>	<b>135,770</b>	<b>332,224</b>

**Table E-47.1: 2032 Combined Weight Reduction Totals (Tons) for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Aggregated Groups and Strategy**

2032					
Aggregated Group	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Packaging	N/A	34,401	23,624	65,634	123,659
Transport	N/A	44,411	N/A	70,136	114,547
FSW	19,933	64,256	9,829	N/A	94,018

**Table E-48: 2027 Market Penetration for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2027				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	1%	26%	26%	52%
Bottle and Cap - High Function (Nonfood)	N/A	1%	26%	26%	52%
Bottle and Cap (Nonfood)	N/A	2%	26%	26%	53%
Rigid Applicators (Nonfood)	N/A	1%	26%	26%	52%
Rigid Case (Nonfood)	N/A	5%	N/A	N/A	5%
Injection Molded Pail/Can (Nonfood)	N/A	5%	26%	26%	56%
Impact Resistant Packaging (Nonfood)	N/A	15%	3%	13%	30%
Bottle and Cap (Food)	N/A	1%	20%	N/A	21%
Tub and Lid - Higher Weight (Nonfood)	N/A	5%	15%	26%	46%
Pallet Wrap	N/A	6%	N/A	3%	9%
E-Commerce Envelopes	N/A	10%	N/A	N/A	10%
Clam Shell (Food)	N/A	5%	N/A	N/A	5%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	5%	N/A	N/A	5%
Tub and Lid - Light Weight (Nonfood)	N/A	5%	N/A	N/A	5%
Tray and Film - Low Barrier (Nonfood)	N/A	5%	N/A	N/A	5%
Flexible Bag - Low Barrier (Nonfood)	N/A	5%	N/A	N/A	5%
FSW: Film	N/A	5%	N/A	N/A	5%
Tubes and Cap (Nonfood)	N/A	2%	N/A	N/A	2%
FSW: Cups	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	N/A	5%	N/A	N/A	5%
FSW: Container - Majority Plastic	5%	17%	N/A	N/A	22%
FSW: Utensil	5%	18%	N/A	N/A	23%

**Table E-49: 2030 Market Penetration for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2030				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	5%	50%	26%	81%
Bottle and Cap - High Function (Nonfood)	N/A	5%	50%	26%	81%
Bottle and Cap (Nonfood)	N/A	5%	50%	26%	81%
Rigid Applicators (Nonfood)	N/A	5%	50%	26%	81%
Rigid Case (Nonfood)	N/A	5%	N/A	N/A	5%
Injection Molded Pail/Can (Nonfood)	N/A	5%	50%	26%	81%
Impact Resistant Packaging (Nonfood)	N/A	20%	5%	13%	38%
Bottle and Cap (Food)	N/A	5%	40%	N/A	45%
Tub and Lid - Higher Weight (Nonfood)	N/A	5%	30%	26%	61%
Pallet Wrap	N/A	6%	N/A	26%	32%
E-Commerce Envelopes	N/A	10%	N/A	22%	32%
Clam Shell (Food)	N/A	5%	10%	N/A	15%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	5%	40%	N/A	45%
Tub and Lid - Light Weight (Nonfood)	N/A	5%	30%	N/A	35%
Tray and Film - Low Barrier (Nonfood)	N/A	5%	30%	N/A	35%
Flexible Bag - Low Barrier (Nonfood)	N/A	5%	N/A	N/A	5%
FSW: Film	N/A	5%	40%	N/A	45%
Tubes and Cap (Nonfood)	N/A	5%	N/A	N/A	5%
FSW: Cups	N/A	N/A	15%	N/A	15%
Tray and Film - Low Barrier (Food)	N/A	5%	10%	N/A	15%
FSW: Container - Majority Plastic	5%	21%	N/A	N/A	26%
FSW: Utensil	5%	21%	N/A	N/A	26%

**Table E-50: 2032 Market Penetration for Pathway B - Other Source Reduction Strategies (Non-Reuse and Refill), by Format Cluster and Strategy**

Format Cluster	2032				
	Elimination	Material Substitution	Lightweighting	Recycled Content	Total
Bottle and Pump/Trigger (Nonfood)	N/A	5%	50%	26%	81%
Bottle and Cap - High Function (Nonfood)	N/A	5%	50%	26%	81%
Bottle and Cap (Nonfood)	N/A	5%	50%	26%	81%
Rigid Applicators (Nonfood)	N/A	5%	50%	26%	81%
Rigid Case (Nonfood)	N/A	5%	N/A	N/A	5%
Injection Molded Pail/Can (Nonfood)	N/A	5%	50%	26%	81%
Impact Resistant Packaging (Nonfood)	N/A	20%	5%	13%	38%
Bottle and Cap (Food)	N/A	5%	40%	N/A	45%
Tub and Lid - Higher Weight (Nonfood)	N/A	5%	30%	26%	61%
Pallet Wrap	N/A	6%	N/A	26%	32%
E-Commerce Envelopes	N/A	10%	N/A	22%	32%
Clam Shell (Food)	N/A	5%	10%	N/A	15%
Plastic Jar and Lid - Minimum Preservation (Food)	N/A	5%	40%	N/A	45%
Tub and Lid - Light Weight (Nonfood)	N/A	5%	30%	N/A	35%
Tray and Film - Low Barrier (Nonfood)	N/A	5%	30%	N/A	35%
Flexible Bag - Low Barrier (Nonfood)	N/A	5%	N/A	N/A	5%
FSW: Film	N/A	5%	40%	N/A	45%
Tubes and Cap (nonfood)	N/A	5%	N/A	N/A	5%
FSW: Cups	N/A	N/A	15%	N/A	15%
Tray and Film - Low Barrier (Food)	N/A	5%	10%	N/A	15%
FSW: Container - Majority Plastic	5%	23%	N/A	N/A	28%
FSW: Utensil	5%	24%	N/A	N/A	29%

# Appendix F. Detailed Cost Modeling Method and Assumptions

## Closed Loop Food Service Ware and Prefill B2B

Table F-51 shows how each type of single-use plastic covered material switches in a reuse system.

**Table F-51: Functional Equivalence Between Single-Use and Reusable Packaging/Food Service Ware Model Archetypes in Closed Loop Food Service Ware and Prefill B2B Systems**

<b>Format Cluster (Single-Use)</b>	<b>Reuse Packaging Archetype</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	Box/Tub/Tray/Clamshell
<b>Flexible Bag - Low Barrier (Food)</b>	Box/Tub/Tray/Clamshell
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	Box/Tub/Tray/Clamshell
<b>Flexible Bag - Medium Barrier (Food)</b>	Box/Tub/Tray/Clamshell
<b>Flexible Bag - High Barrier (Food)</b>	Box/Tub/Tray/Clamshell
<b>Tray and Film - Low Barrier (Nonfood)</b>	Box/Tub/Tray/Clamshell
<b>Tray and Film - Low Barrier (Food)</b>	Box/Tub/Tray/Clamshell
<b>Tray and Film - High Barrier (Food)</b>	Box/Tub/Tray/Clamshell
<b>Tub and Lid - Light Weight (Nonfood)</b>	Bottle/Jar
<b>Tub and Lid - Light Weight (Food)</b>	Bottle/Jar
<b>Tub and Lid - Higher Weight (Nonfood)</b>	Bottle/Jar
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	Bottle/Jar
<b>Plastic Jar and Lid - High Preservation (Food)</b>	Bottle/Jar

<b>Format Cluster (Single-Use)</b>	<b>Reuse Packaging Archetype</b>
<b>Clamshell (Nonfood)</b>	Box/Tub/Tray/Clamshell
<b>Clamshell (Food)</b>	Box/Tub/Tray/Clamshell
<b>Bottle and Cap (Nonfood)</b>	Bottle/Jar
<b>Bottle and Cap (Food)</b>	Bottle/Jar
<b>Bottle and Cap - High Function (Nonfood)</b>	Bottle/Jar
<b>Bottle and Cap - High Preservation (Food)</b>	Bottle/Jar
<b>Bottle and Pump/Trigger (Nonfood)</b>	Bottle/Jar
<b>Tubes and Cap (Nonfood)</b>	Bottle/Jar
<b>Impact Resistant Packaging (Nonfood)</b>	Box/Tub/Tray/Clamshell
<b>Non-FMCG Primary/Secondary - Rigid</b>	Box/Tub/Tray/Clamshell
<b>Non-FMCG Primary/Secondary - Flexible</b>	Box/Tub/Tray/Clamshell
<b>Food Service Ware - Utensils</b>	Food Service Ware Utensil
<b>Food Service Ware - Containers</b>	Food Service Ware Container
<b>Food Service Ware - Cups</b>	Food Service Ware Container
<b>Food Service Ware - Lids</b>	Food Service Ware Utensil
<b>Food Service Ware - Films and Flexibles</b>	Box/Tub/Tray/Clamshell

**Table F-52: Estimates of the Maximum Number of Businesses Implicated in the Reuse Pathways in California**

	<b>Closed Loop Reusable FSW</b>	<b>Prefill B2B</b>
<b>Restaurants (including venues, airports, bars, hotels, museums and similar)<sup>10</sup></b>	74,934	80,000
<b>Public Schools<sup>11</sup></b>	10,326	10,326
<b>Private Schools<sup>12</sup></b>	2,958	2,958
<b>Correctional Facilities<sup>13</sup></b>	31	31
<b>Supermarkets<sup>14</sup></b>	0	5,000
<b>Care Facilities<sup>15</sup></b>	7,800	7,800
<b>Large Event Spaces</b>	124	124

**Table F-53: Modeling Assumptions for Outreach**

<b>Outreach</b>	<b>Units</b>
<b>Hours per Business<sup>16</sup></b>	4
<b>Cost per Hour<sup>17</sup></b>	\$100

**Table F-54: Plastic Resin Costs.<sup>18</sup>**

Note: Global averages are used.

<b>Resin</b>	<b>Price (\$/ton)</b>
<b>PET</b>	1.38
<b>rPET</b>	1.56
<b>HDPE</b>	0.95
<b>PP</b>	1.11
<b>PE</b>	1.30
<b>PS</b>	1.00
<b>LDPE</b>	1.10
<b>LLDPE</b>	0.90

**Table F-55: Estimated Energy Requirements of Plastic Processing<sup>19</sup>**

<b>Process</b>	<b>Energy Consumption Kilowatt-hour (kWh)/ton</b>
<b>Extrusion</b>	400-700
<b>Injection Molding</b>	900-1,600
<b>Extrusion Blow Molding</b>	2000-2600
<b>Thermoforming</b>	900-1,600

Table F-56 shows the return rate assumptions used in the study. The references provided were used to determine return rates in high-performing systems.

**Table F-56: Return Rate Assumptions<sup>20 21 22 23 24 25 26 27 28</sup>**

Reusable Plastic Material Type	Assumed Return Rate
Closed Loop Reusable FSW	88%
Prefill B2B Packaging	95%
Reusable Tote Boxes	98%

**Table F-57: Headroom Assumptions<sup>29</sup>**

Reusable Plastic Material Type	Assumed Headroom Requirement
Closed Loop Reusable FSW	35%
Prefill B2B Packaging	20%
Reusable Tote Boxes	35%

**Table F-58: Assumptions Used to Estimate Haulage Costs of Manufactured Plastic**

Assumption	Assumption Value
Transportation Mode	Road haulage
Transportation Distance	1,300 miles - the approximate distance between the US Gulf Coast, where most US plastics manufacturing occurs, and California.
Cost per Ton-Mile	\$0.27 <sup>30</sup>

**Table F-59: Combined Statistical Areas in California and Longest Driving Distance Across Them**

<b>Combined Statistical Area (CSA)</b>	<b>2023 Estimate<sup>31</sup></b>	<b>Population Breakdown</b>	<b>Longest Drive Distance<sup>32</sup></b>
<b>Los Angeles-Long Beach, CA CSA</b>	18,316,743	57%	300
<b>San Jose-San Francisco-Oakland, CA CSA</b>	9,001,024	28%	230
<b>Sacramento-Roseville, CA CSA</b>	2,706,315	8%	140
<b>Fresno-Hanford-Corcoran, CA CSA</b>	1,332,702	4%	110
<b>Redding-Red Bluff, CA CSA</b>	245,262	1%	120
<b>Brookings-Crescent City, OR-CA CSA (CA)</b>	26,589	0%	50
<b>Reno-Carson City-Gardnerville Ranchos, NV-CA CSA (CA)</b>	1,141	0%	230
<b>Brookings-Crescent City, OR-CA CSA</b>	49,885	0%	230
<b>Reno-Carson City-Gardnerville Ranchos, NV-CA CSA</b>	699,307	2%	230

## Other Source Reduction and Alternative Compliance Formula

Table F-60: Packaging Redesign Costs per Intervention by Strategy - Small Business

Format	Elimination	Material Substitution	Concentration	Right Sizing	Lightweighting	Large format	Format Change	Recycled Content
Flexible Bag - Low Barrier (Nonfood)	N/A	\$300,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
Flexible Bag - Low Barrier (Food)	N/A	\$100,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$50,000
Flexible Bag - Medium Barrier (Nonfood)	N/A	\$300,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Flexible Bag - Medium Barrier (Food)	N/A	\$300,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
Flexible Bag - High Barrier (Food)	N/A	N/A	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	N/A
Tray and Film - Low Barrier (Nonfood)	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	N/A
Tray and Film - Low Barrier (Food)	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	N/A
Tray and Film - High Barrier (Food)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tub and Lid - Light Weight (Nonfood)	N/A	\$50,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
Tub and Lid - Light Weight (Food)	\$10,000	\$50,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$50,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$50,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$50,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$50,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Injection Molded Pail/Can</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Clamshell (Food)</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$200,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
<b>Bottle and Cap (Food)</b>	N/A	\$50,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
<b>Bottle and Cap - High Function (Nonfood)</b>	\$100,000	\$300,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$50,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Bottle and Pump/Trigger (Nonfood)</b>	\$100,000	\$300,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Tubes and Cap (Nonfood)</b>	N/A	N/A	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$50,000
<b>Rigid Applicators (Nonfood)</b>	\$100,000	\$300,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Rigid Case (Nonfood)</b>	N/A	\$50	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	\$30,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$20,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Food Service Ware - Lids</b>	N/A	\$50	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2B Transport Packaging</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-61: Packaging Redesign Costs per Intervention by Strategy - Medium Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$300,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$50,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$300,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000	\$75,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$150,000	\$162,500	\$162,500	\$162,500	\$162,500	\$162,500	\$75,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$300,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$75,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	\$300,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A	\$250,000	\$250,000	\$250,000	\$250,000	
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$100,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	\$100,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Food)</b>	N/A	\$100,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tub and Lid - Higher Weight (Nonfood)</b>	\$30,000	\$100,000	\$275,000	\$275,000	\$275,000	\$275,000	\$275,000	\$75,000
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$100,000	\$275,000	\$275,000	\$275,000	\$275,000	\$275,000	\$75,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$125,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$75,000
<b>Injection Molded Pail/Can</b>	N/A	\$100,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Clamshell (Nonfood)</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clamshell (Food)</b>	N/A	\$100,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$100,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Bottle and Cap (Food)</b>	N/A	\$200,000	\$225,000	\$300,000	\$300,000	\$300,000	\$225,000	\$75,000
<b>Bottle and Cap - High Function (Nonfood)</b>	N/A	\$100,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$75,000
<b>Bottle and Cap - High Preservation (Food)</b>	\$125,000	\$300,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$75,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	N/A	\$100,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tubes and Cap (Nonfood)</b>	\$125,000	\$300,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Rigid Applicators (Nonfood)</b>	N/A	\$200,000	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$75,000
<b>Rigid Case (Nonfood)</b>	\$125,000	\$300,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	\$75,025	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$165,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$110,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Food Service Ware - Utensils</b>	N/A	\$100,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	\$75,025	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-62: Packaging Redesign Costs per Intervention by Strategy - Large Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$200,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$100,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$300,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$100,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$300,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$100,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Tub and Lid - Light Weight (Food)</b>	\$50,000	\$150,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$150,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$100,000
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$200,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Injection Molded Pail/Can</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Clamshell (Food)</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Bottle and Cap (Food)</b>	N/A	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$100,000
<b>Bottle and Cap - High Function (Nonfood)</b>	\$150,000	\$300,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$100,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tubes and Cap (Nonfood)</b>	N/A	\$200,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$100,000
<b>Rigid Applicators (Nonfood)</b>	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Rigid Case (Nonfood)</b>	N/A	\$150,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$200,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-63: Tooling and Equipment Costs (Total) per Intervention by Strategy - Small Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$60,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$50,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$60,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$50,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$60,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$50,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$60,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$50,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$400,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
<b>Tray and Film - High Barrier (Food)</b>	N/A		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$150,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Tub and Lid - Light Weight (Food)</b>	N/A	\$100,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$50,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$150,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$250,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Injection Molded Pail/Can</b>	N/A	\$120,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	
<b>Clamshell (Nonfood)</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Clamshell (Food)</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$50,000
<b>Bottle and Cap (Food)</b>	N/A	\$250,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Bottle and Cap - High Function (Nonfood)</b>	\$50,000	\$250,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$250,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	\$100,000	\$250,000	\$80,000	\$100,000	\$100,000	\$100,000	\$80,000	\$50,000
<b>Tubes and Cap (Nonfood)</b>	N/A	\$100,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Rigid Applicators (Nonfood)</b>	\$50,000	\$150,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$50,000
<b>Rigid Case (Nonfood)</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$150,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	N/A	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	\$50,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-64: Tooling and Equipment Costs (Total) per Intervention by Strategy - Medium Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$230,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$75,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$230,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$75,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$230,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$75,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$180,000	\$52,500	\$52,500	\$52,500	\$52,500	\$52,500	\$75,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	\$325,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$800,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$825,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$75,000
<b>Tub and Lid - Light Weight (Food)</b>	\$10,000	\$800,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$75,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$825,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$825,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$75,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$1,375,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$75,000
<b>Injection Molded Pail/Can</b>	N/A	\$810,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$675,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$75,000
<b>Clamshell (Food)</b>	N/A	\$675,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$75,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$875,000	\$875,000	\$875,000	\$875,000	\$875,000	\$875,000	\$75,000
<b>Bottle and Cap (Food)</b>	N/A	\$625,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$75,000
<b>Bottle and Cap - High Function (Nonfood)</b>	\$100,000	\$875,000	\$800,000	\$300,000	\$300,000	\$300,000	\$800,000	\$75,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$875,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$75,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	\$125,000	\$875,000	\$190,000	\$300,000	\$300,000	\$300,000	\$190,000	\$75,000
<b>Tubes and Cap (Nonfood)</b>	N/A	\$300,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Rigid Applicators (Nonfood)</b>	\$100,000	\$325,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$75,000
<b>Rigid Case (Nonfood)</b>	N/A	\$575,000	\$275,000	\$275,000	\$275,000	\$275,000	\$275,000	\$75,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$575,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$575,000	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$75,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	\$50,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2B Transport Packaging</b>	N/A	\$175,000	N/A	N/A	N/A	N/A	N/A	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-65: Tooling and Equipment Costs (Total) per Intervention by Strategy - Large Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$400,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$400,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$400,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$100,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$300,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$100,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	\$500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$1,200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$100,000
<b>Tub and Lid - Light Weight (Food)</b>	\$10,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$100,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$1,500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$2,500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Injection Molded Pail/Can</b>	N/A	\$1,500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$1,200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Clamshell (Food)</b>	N/A	\$1,200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$100,000
<b>Bottle and Cap (Food)</b>	N/A	\$1,000,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Bottle and Cap - High Function (Nonfood)</b>	\$150,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$100,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$1,500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	\$150,000	\$1,500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Tubes and Cap (Nonfood)</b>	N/A	\$500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Rigid Applicators (Nonfood)</b>	\$150,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Rigid Case (Nonfood)</b>	N/A	\$1,000,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$100,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$1,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$1,000,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$100,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	\$50,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-66: Marketing and Commercial Costs (Total) per Intervention by Strategy - Small Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000
<b>Tub and Lid - Light Weight (Food)</b>	\$20,000	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Injection Molded Pail/Can</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Clamshell (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$300,000	\$300,000	N/A	N/A	N/A	\$300,000	\$50,000
<b>Bottle and Cap (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Bottle and Cap - High Function (Nonfood)</b>	N/A	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	N/A	\$300,000	N/A	\$300,000	N/A	N/A	N/A	\$50,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Tubes and Cap (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Rigid Applicators (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Rigid Case (Nonfood)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2B Transport Packaging</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-67: Marketing and Commercial Costs (Total) per Intervention by Strategy - Medium Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$300,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000
<b>Tub and Lid - Light Weight (Food)</b>	\$30,000	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Injection Molded Pail/Can</b>	N/A		N/A	N/A	N/A	N/A	N/A	
<b>Clamshell (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Clamshell (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$1,150,000	\$1,150,000	N/A	N/A	N/A	\$1,150,000	\$75,000
<b>Bottle and Cap (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Bottle and Cap - High Function (Nonfood)</b>	N/A	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	N/A	\$1,150,000	N/A	\$1,150,000	N/A	N/A	N/A	\$75,000
<b>Tubes and Cap (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Rigid Applicators (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Rigid Case (Nonfood)</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$1,150,000	N/A	N/A	N/A	N/A	N/A	\$75,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-68: Marketing and Commercial Costs (Total) per Intervention by Strategy - Large Business**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - Low Barrier (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000
<b>Tub and Lid - Light Weight (Food)</b>	\$40,000	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Injection Molded Pail/Can</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clamshell (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Clamshell (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Bottle and Cap (Nonfood)</b>	N/A	\$2,000,000	\$2,000,000	N/A	N/A	N/A	\$2,000,000	\$100,000
<b>Bottle and Cap (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Bottle and Cap - High Function (Nonfood)</b>	N/A	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Bottle and Pump/Trigger (Nonfood)</b>	N/A	\$2,000,000	N/A	\$2,000,000	N/A	N/A	N/A	\$100,000
<b>Tubes and Cap (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Rigid Applicators (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Rigid Case (Nonfood)</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$100,000
<b>Food Service Ware - Utensils</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Containers</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Cups</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Lids</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Food Service Ware - Films and Flexibles</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>B2B Transport Packaging</b>	N/A	\$2,000,000	N/A	N/A	N/A	N/A	N/A	\$50,000
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>B2C E-Commerce Transport Packaging</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table F-69: Material and Feedstock Cost Changes (per cent) per Intervention by Strategy - All Business Sizes**

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	N/A	40%	N/A	-3%	-20%	-20%	N/A	30%
<b>Flexible Bag - Low Barrier (Food)</b>	N/A	N/A	N/A	-18%	-20%	-40%	N/A	30%
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	N/A	40%	N/A	N/A	-15%	-20%	N/A	30%
<b>Flexible Bag - Medium Barrier (Food)</b>	N/A	40%	N/A	-18%	-20%	-33%	N/A	30%
<b>Flexible Bag - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	-10%	-10%	N/A	30%
<b>Tray and Film - Low Barrier (Nonfood)</b>	N/A	75%	N/A	-3%	-8%	-28%	N/A	30%
<b>Tray and Film - Low Barrier (Food)</b>	N/A	75%	N/A	N/A	-11%	-33%	N/A	30%
<b>Tray and Film - High Barrier (Food)</b>	N/A	N/A	N/A	N/A	-8%	-28%	N/A	30%
<b>Tub and Lid - Light Weight (Nonfood)</b>	N/A	75%	N/A	-3%	-8%	-8%	N/A	30%
<b>Tub and Lid - Light Weight (Food)</b>	13%	100%	N/A	N/A	-8%	-20%	N/A	30%
<b>Tub and Lid - Higher Weight (Nonfood)</b>	N/A	75%	N/A	-3%	-8%	-28%	N/A	30%

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	N/A	75%	N/A	-3%	-8%	-33%	N/A	30%
<b>Plastic Jar and Lid - High Preservation (Food)</b>	N/A	75%	N/A	N/A	-11%	-15%	N/A	30%
<b>Injection Molded Pail/Can</b>	N/A	75%	N/A	N/A	-8%	-28%	N/A	30%
<b>Clamshell (Nonfood)</b>	N/A	75%	N/A	-3%	-20%	-15%	N/A	30%
<b>Clamshell (Food)</b>	N/A	75%	N/A	-3%	-20%	-15%	N/A	30%
<b>Bottle and Cap (Nonfood)</b>	N/A	200%	N/A	-2%	-11%	-40%	N/A	30%
<b>Bottle and Cap (Food)</b>	N/A	50%	N/A	N/A	-11%	-20%	N/A	30%
<b>Bottle and Cap - High Function (Nonfood)</b>	2%	200%	-50%	-5%	-15%	-8%	-50%	30%
<b>Bottle and Cap - High Preservation (Food)</b>	N/A	100%	N/A	N/A	-20%	-38%	N/A	30%
<b>Bottle and Pump/Trigger (Nonfood)</b>	N/A	200%	N/A	-2%	-15%	-33%	N/A	30%
<b>Tubes and Cap (Nonfood)</b>	N/A	50%	N/A	N/A	-8%	-40%	N/A	30%
<b>Rigid Applicators (Nonfood)</b>	2%	50%	N/A	N/A	-8%	-10%	N/A	30%
<b>Rigid Case (Nonfood)</b>	N/A	50%	N/A	N/A	-15%	-23%	N/A	30%
<b>Impact Resistant Packaging (Nonfood)</b>	N/A	40%	N/A	N/A	N/A	-33%	N/A	30%

<b>Format</b>	<b>Elimination</b>	<b>Material Substitution</b>	<b>Concentration</b>	<b>Right Sizing</b>	<b>Lightweighting</b>	<b>Large format</b>	<b>Format Change</b>	<b>Recycled Content</b>
<b>Non-FMCG Primary/Secondary - Rigid</b>	N/A	N/A	N/A	N/A	N/A	-35%	N/A	30%
<b>Non-FMCG Primary/Secondary - Flexible</b>	N/A	N/A	N/A	N/A	N/A	-15%	N/A	30%
<b>Food Service Ware - Utensils</b>	N/A	75%	N/A	N/A	N/A	-15%	N/A	30%
<b>Food Service Ware - Containers</b>	N/A	60%	N/A	N/A	N/A	-28%	N/A	30%
<b>Food Service Ware - Cups</b>	N/A		N/A	N/A	N/A	-23%	N/A	30%
<b>Food Service Ware - Lids</b>	N/A	75%	N/A	N/A	N/A	-25%	N/A	30%
<b>Food Service Ware - Films and Flexibles</b>	N/A	75%	N/A	N/A	-50%	-35%	N/A	30%
<b>B2B Transport Packaging</b>	N/A	40%	N/A	N/A	N/A	-33%	N/A	30%
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	N/A	N/A	N/A	N/A	N/A	-28%	N/A	30%
<b>B2C E-Commerce Transport Packaging</b>	N/A	150%	N/A	N/A	-8%	-28%	N/A	30%

# Appendix G. Plastic Covered Material Category Analysis

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This study developed source reduction strategies for different types of packaging format clusters. Meanwhile, the Act is defined in terms of covered material categories (CMC). The CMC list version utilized for this analysis was published on January 1, 2025.<sup>33</sup>

The CMCs containing plastic covered material as defined in the Act are listed in Table 13-46. The first column of the table lists an identification (Category ID) code for each CMC.<sup>7</sup> Each CMC is defined in the Act as falling into one of five material classes:

- Glass
- Ceramic
- Metal
- Paper and fiber
- Plastic
- Wood and other organics

Material type then provides more detail on the main type of material (e.g., Molded fiber is a material type within the Paper and Fiber material class). The material form provides more information on the format of the CMC.

Table 13-46 maps CMCs onto the format clusters used in the analysis. For each CMC containing plastic, it shows which format clusters could fall into that CMC.

Table 13-47 is the inverse of Table 13-46. It lists all the format clusters developed by the contractor and analyzed in this study, and specifies which CMCs may fall into that format cluster.

The following acronyms are defined:

- HDPE: High-density polyethylene
- LDPE: Low-density polyethylene

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<sup>7</sup> See the source for a more detailed explanation of the compositions of these codes.

- OCC: Old corrugated cardboard
- PET: Polyethylene terephthalate
- PP: Polypropylene
- PRC: Public Resources Code (California Statute)
- PS: Polystyrene
- PVC: Polyvinyl chloride

**Table G-70: Mapping from Covered Material Categories Containing Plastic to Format Clusters Used in This Analysis**

<b>Category ID</b>	<b>Material Class</b>	<b>Material Type</b>	<b>Form</b>	<b>Associated Format Clusters</b>
<b>24_G1P</b>	Glass	Glass	Bottle and Jars with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_G2P</b>	Glass	Glass	Other Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_G3P</b>	Glass	Glass	Small - Two or more sides measuring 2” or less with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_C1P</b>	Ceramic	Ceramic	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_C2P</b>	Ceramic	Ceramic	Small - Two or more sides measuring 2” or less with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M1P</b>	Metal	Aluminum	Non-aerosol container with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M2P</b>	Metal	Aluminum	Foil sheets with a plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M3P</b>	Metal	Aluminum	Foil Molded Containers with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M4P</b>	Metal	Aluminum	Aerosol can with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M5P</b>	Metal	Aluminum	Other Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M6P</b>	Metal	Tin/Steel/Bimetal	Non-aerosol container with plastic component	Non-Dominant Plastic Packaging with Plastic Component

<b>Category ID</b>	<b>Material Class</b>	<b>Material Type</b>	<b>Form</b>	<b>Associated Format Clusters</b>
<b>24_M7P</b>	Metal	Tin/Steel/Bimetal	Aerosol can with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M8P</b>	Metal	Tin/Steel/Bimetal	Other Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M9P</b>	Metal	Other Nonferrous	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M10P</b>	Metal	Other Ferrous	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_M12P</b>	Metal	Metal	Small - Two or more sides measuring 2" or less with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF1P</b>	Paper and Fiber	Kraft Paper	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF14P</b>	Paper and Fiber	Molded Fiber	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF15P</b>	Paper and Fiber	Multi-Material Laminate	Aseptic Cartons	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF5P</b>	Paper and Fiber	Multi-Material Laminate	Gable-top Cartons	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF7P</b>	Paper and Fiber	Multi-Material Laminate	Other Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF8P</b>	Paper and Fiber	OCC	Waxed Cardboard with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_PF9P</b>	Paper and Fiber	OCC	Cardboard with plastic component	Non-Dominant Plastic Packaging with Plastic Component

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_PF10P	Paper and Fiber	Paperboard	All Forms with plastic component	Tray and Film - Low Barrier (Food) Non-Dominant Plastic Packaging with Plastic Component
24_PF11P	Paper and Fiber	White Paper	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
24_PF12P	Paper and Fiber	Other/Mixed Paper	All Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
24_PF16P	Paper and Fiber	Paper and Fiber	Small - Two or more sides measuring 2" or less with plastic component	Non-Dominant Plastic Packaging with Plastic Component
24_P1P	Plastic	PET (#1)	Bottles, Jugs, and Jars (Clear/Natural)	Plastic Jar and Lid - Minimum Preservation (Food) Plastic Jar and Lid - High Preservation (Food) Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood)
24_P2P	Plastic	PET (#1)	Bottles, Jugs, and Jars (Pigmented/Color)	Plastic Jar and Lid - Minimum Preservation (Food) Plastic Jar and Lid - High Preservation (Food) Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood)

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_P38P	Plastic	PET (#1)	Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs	Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Tray and Film - High Barrier (Food) Tub and Lid - Light Weight (Nonfood) Tub and Lid - Light Weight (Food) Clamshell (Nonfood) Clamshell (Food) Food Service Ware - Containers Food Service Ware - Cups Food Service Ware - Lids
24_P39P	Plastic	PET (#1)	Other Rigid Items	Clamshell (Nonfood) Rigid Applicators (Nonfood) Non-FMCG Primary/Secondary - Rigid
24_P5P	Plastic	PET (#1)	Flexible and Film Items	Flexible Bag - Low Barrier (Food) Flexible Bag - Medium Barrier (Nonfood) Flexible Bag - Medium Barrier (Food) Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Bottle and Cap - High Preservation (Food) Non-FMCG Primary/Secondary - Flexible Food Service Ware - Films and Flexibles
24_P6P	Plastic	HDPE (#2)	Bottles, Jugs and Jars (Clear/Natural)	Plastic Jar and Lid - Minimum Preservation (Food) Plastic Jar and Lid - High Preservation (Food) Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood)

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_P7P	Plastic	HDPE (#2)	Bottles, Jugs and Jars (Pigmented/Color)	Plastic Jar and Lid - Minimum Preservation (Food) Plastic Jar and Lid - High Preservation (Food) Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood)
24_P8P	Plastic	HDPE (#2)	Pails + Buckets	Tub and Lid - Higher Weight (Nonfood) Injection Molded Pail/Can
24_P40P	Plastic	HDPE (#2)	Other Rigid Items	Tub and Lid - Light Weight (Nonfood) Tubes and Cap (Nonfood) Rigid Case (Nonfood) Non-FMCG Primary/Secondary - Rigid B2B Transport Packaging
24_P10P	Plastic	HDPE (#2)	Flexible and Film Items	Flexible Bag - Low Barrier (Nonfood) Flexible Bag - Low Barrier (Food) B2B Transport Packaging
24_P11P	Plastic	PVC (#3)	Rigid Items	Non-FMCG Primary/Secondary - Rigid
24_P12P	Plastic	PVC (#3)	Flexible and Film Items	Non-FMCG Primary/Secondary - Flexible
24_P13P	Plastic	LDPE (#4)	Bottles, Jugs and Jars	Plastic Jar and Lid - Minimum Preservation (Food) Bottle and Cap (Nonfood)
24_P14P	Plastic	LDPE (#4)	Other Rigid Items	Tubes and Cap (Nonfood)

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_P15P	Plastic	LDPE (#4)	Clear Non-Bag Film	Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Non-FMCG Primary/Secondary - Flexible Food Service Ware - Films and Flexibles B2B Transport Packaging B2C E-Commerce Transport Packaging
24_P16P	Plastic	LDPE (#4)	Other Flexible and Film Items	Flexible Bag - Low Barrier (Nonfood) Flexible Bag - Low Barrier (Food) Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Non-FMCG Primary/Secondary - Flexible Food Service Ware - Films and Flexibles B2B Transport Packaging B2C E-Commerce Transport Packaging
24_P17P	Plastic	PP (#5)	Bottles, Jugs and Jars	Plastic Jar and Lid - Minimum Preservation (Food) Plastic Jar and Lid - High Preservation (Food) Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood)

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_P41P	Plastic	PP (#5)	Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs	Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Tray and Film - High Barrier (Food) Tub and Lid - Light Weight (Nonfood) Tub and Lid - Light Weight (Food) Clamshell (Food) Food Service Ware - Containers Food Service Ware - Cups Food Service Ware - Lids
24_P19P	Plastic	PP (#5)	Utensils	Food Service Ware - Utensils
24_P20P	Plastic	PP (#5)	Other Rigid Items	Tub and Lid - Higher Weight (Nonfood) Injection Molded Pail/Can Clamshell (Nonfood) Rigid Applicators (Nonfood) Rigid Case (Nonfood) Impact Resistant Packaging (Nonfood) Non-FMCG Primary/Secondary - Rigid B2B Transport Packaging
24_P21P	Plastic	PP (#5)	Clear Non-Bag Film	Flexible Bag - Medium Barrier (Nonfood) Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food)
24_P22P	Plastic	PP (#5)	Other Flexible and Film Items	Flexible Bag - Low Barrier (Nonfood) Flexible Bag - Low Barrier (Food) Flexible Bag - Medium Barrier (Nonfood) Flexible Bag - Medium Barrier (Food) Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Non-FMCG Primary/Secondary - Flexible Food Service Ware - Films and Flexibles B2C E-Commerce Transport Packaging

<b>Category ID</b>	<b>Material Class</b>	<b>Material Type</b>	<b>Form</b>	<b>Associated Format Clusters</b>
<b>24_P23P</b>	Plastic	PS (#6)	Expanded/Foamed Hinged Containers, Plates, Cups, Tubs, Trays, and Other Foamed Containers	Tray and Film - Low Barrier (Food) Clamshell (Food) Food Service Ware - Containers Food Service Ware - Cups
<b>24_P42P</b>	Plastic	PS (#6)	Other Expanded/Foamed Forms	Impact Resistant Packaging (Nonfood)
<b>24_P27P</b>	Plastic	PS (#6)	Utensils	Food Service Ware - Utensils
<b>24_P43P</b>	Plastic	PS (#6)	Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms	Tray and Film - Low Barrier (Nonfood) Tray and Film - Low Barrier (Food) Tub and Lid - Light Weight (Nonfood) Tub and Lid - Light Weight (Food) Clamshell (Nonfood) Clamshell (Food) Food Service Ware - Containers Food Service Ware - Cups Food Service Ware - Lids
<b>24_P29P</b>	Plastic	PS (#6)	Flexible and Film Items	Tray and Film - Low Barrier (Food) Tray and Film - High Barrier (Food) Non-FMCG Primary/Secondary - Flexible
<b>24_P46P</b>	Plastic	Multi-Material Laminate	Pouches and Envelopes	Non-FMCG Primary/Secondary - Flexible B2C E-Commerce Transport Packaging
<b>24_P33P</b>	Plastic	Multi-Material Laminate	Other Forms	Flexible Bag - Medium Barrier (Nonfood) Flexible Bag - Medium Barrier (Food) Flexible Bag - High Barrier (Food) Tray and Film - High Barrier (Food) Tubes and Cap (Nonfood) Non-FMCG Primary/Secondary - Flexible B2C E-Commerce Transport Packaging

Category ID	Material Class	Material Type	Form	Associated Format Clusters
24_P34P	Plastic	Other/Mixed Plastics	Textiles	Flexible Bag - Low Barrier (Nonfood) Flexible Bag - Low Barrier (Food) Non-FMCG Primary/Secondary - Flexible
24_P35P	Plastic	Other/Mixed Plastics	Rigid Items	Tub and Lid - Higher Weight (Nonfood) Injection Molded Pail/Can Rigid Applicators (Nonfood) Rigid Case (Nonfood) Impact Resistant Packaging (Nonfood) Non-FMCG Primary/Secondary - Rigid B2B Transport Packaging
24_P36P	Plastic	Other/Mixed Plastics	Flexible and Film Items	Flexible Bag - Low Barrier (Nonfood) Flexible Bag - Medium Barrier (Nonfood) Non-FMCG Primary/Secondary - Flexible B2B Transport Packaging B2C E-Commerce Transport Packaging
24_P47P	Plastic	Plastic	Small - Two or more sides measuring 2" or less	Bottle and Cap (Nonfood) Bottle and Cap (Food) Bottle and Cap - High Function (Nonfood) Bottle and Cap - High Preservation (Food) Bottle and Pump/Trigger (Nonfood) Tubes and Cap (Nonfood) Rigid Applicators (Nonfood) Food Service Ware - Lids
24_WO1P	Wood and Other Organic Materials	Wood	All Untreated Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component

<b>Category ID</b>	<b>Material Class</b>	<b>Material Type</b>	<b>Form</b>	<b>Associated Format Clusters</b>
<b>24_WO2P</b>	Wood and Other Organic Materials	Wood	All Treated or Painted Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_WO3P</b>	Wood and Other Organic Materials	Other/Mixed Organic	Textiles with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_WO4P</b>	Wood and Other Organic Materials	Other/Mixed Organic	Other Forms with plastic component	Non-Dominant Plastic Packaging with Plastic Component
<b>24_WO6P</b>	Wood and Other Organic Materials	Wood and Other Organic Materials	Small - Two or more sides measuring 2" or less with plastic component	Non-Dominant Plastic Packaging with Plastic Component

Table G-71 shows which CMCs are expected to contribute plastic covered material to each format cluster.

**Table G-71: Mapping from Format Clusters Used in This Analysis to Covered Material Categories Containing Plastic**

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Flexible Bag - Low Barrier (Nonfood)</b>	24_P10P - Plastic - HDPE (#2) Flexible and Film Items
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P36P - Plastic - Other/Mixed Plastics Flexible and Film Items
	24_P34P - Plastic - Other/Mixed Plastics Textiles
<b>Flexible Bag - Low Barrier (Food)</b>	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P5P - Plastic - PET (#1) Flexible and Film Items
	24_P34P - Plastic - Other/Mixed Plastics Textiles
<b>Flexible Bag - Medium Barrier (Nonfood)</b>	24_P5P - Plastic - PET (#1) Flexible and Film Items
	24_P21P - Plastic - PP (#5) Clear Non-Bag Film
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P33P - Plastic - Multi-Material Laminate Other Forms
	24_P36P - Plastic - Other/Mixed Plastics Flexible and Film Items
<b>Flexible Bag - Medium Barrier (Food)</b>	24_P5P - Plastic - PET (#1) Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P33P - Plastic - Multi-Material Laminate Other Forms
<b>Flexible Bag - High Barrier (Food)</b>	24_P33P - Plastic - Multi-Material Laminate Other Forms

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Tray and Film - Low Barrier (Nonfood)</b>	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P21P - Plastic - PP (#5) Clear Non-Bag Film
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P5P - Plastic - PET (#1) Flexible and Film Items
<b>Tray and Film - Low Barrier (Food)</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
	24_P23P - Plastic - PS (#6) Expanded/Foamed Hinged Containers, Plates, Cups, Tubs, Trays, and Other Foamed Containers
	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P21P - Plastic - PP (#5) Clear Non-Bag Film
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
	24_P5P - Plastic - PET (#1) Flexible and Film Items
	24_P10P - Paper and Fiber - Paperboard All Forms with plastic component
	24_P29P - Plastic - PS (#6) Flexible and Film Items
<b>Tray and Film - High Barrier (Food)</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P33P - Plastic - Multi-Material Laminate Other Forms
	24_P29P - Plastic - PS (#6) Flexible and Film Items
<b>Tub and Lid - Light Weight (Nonfood)</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
	24_P40P - Plastic - HDPE (#2) Other Rigid Items
	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Tub and Lid - Higher Weight (Nonfood)</b>	24_P8P - Plastic - HDPE (#2) Pails and Buckets
	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
<b>Plastic Jar and Lid - Minimum Preservation (Food)</b>	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P13P - Plastic - LDPE (#4) Bottles, Jugs, and Jars
<b>Plastic Jar and Lid - High Preservation (Food)</b>	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Injection Molded Pail/Can</b>	24_P8P - Plastic - HDPE (#2) Pails + Buckets
	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
<b>Clamshell (Nonfood)</b>	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P39P - Plastic - PET (#1) Other Rigid Items
	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
<b>Clamshell (Food)</b>	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
	24_P23P - Plastic - PS (#6) Expanded/Foamed Hinged Containers, Plates, Cups, Tubs, Trays, and Other Foamed Containers
<b>Bottle and Cap (Nonfood)</b>	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Bottle and Cap (Nonfood) - continued</b>	24_P13P - Plastic - LDPE (#4) Bottles, Jugs, and Jars
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Bottle and Cap (Food)</b>	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Bottle and Cap - High Function (Nonfood)</b>	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
<b>Bottle and Cap - High Preservation (Food)</b>	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P5P - Plastic - PET (#1) Flexible and Film Items

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Bottle and Cap - High Preservation (Food) - continued</b>	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Bottle and Pump/Trigger (Nonfood)</b>	24_P6P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Clear/Natural)
	24_P7P - Plastic - HDPE (#2) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P1P - Plastic - PET (#1) Bottles, Jugs, and Jars (Clear/Natural)
	24_P2P - Plastic - PET (#1) Bottles, Jugs, and Jars (Pigmented/Color)
	24_P17P - Plastic - PP (#5) Bottles, Jugs, and Jars
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Tubes and Cap (Nonfood)</b>	24_P14P - Plastic - LDPE (#4) Other Rigid Items
	24_P40P - Plastic - HDPE (#2) Other Rigid Items
	24_P33P - Plastic - Multi-Material Laminate Other Forms
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Rigid Applicators (Nonfood)</b>	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P39P - Plastic - PET (#1) Other Rigid Items
	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less
<b>Rigid Case (Nonfood)</b>	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P40P - Plastic - HDPE (#2) Other Rigid Items
<b>Impact Resistant Packaging (Nonfood)</b>	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
	24_P20P - Plastic - PP (#5) Other Rigid Items

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Impact Resistant Packaging (Nonfood) - continued</b>	24_P42P - Plastic - PS (#6) Other Expanded/Foamed Forms
<b>Non-FMCG Primary/Secondary - Rigid</b>	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P40P - Plastic - HDPE (#2) Other Rigid Items
	24_P39P - Plastic - PET (#1) Other Rigid Items
	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
	24_P11P - Plastic - PVC (#3) Rigid Items
<b>Non-FMCG Primary/Secondary - Flexible</b>	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P5P - Plastic - PET (#1) Flexible and Film Items
	24_P36P - Plastic - Other/Mixed Plastics Flexible and Film Items
	24_P46P - Plastic - Multi-Material Laminate Pouches and Envelopes
	24_P33P - Plastic - Multi-Material Laminate Other Forms
	24_P12P - Plastic - PVC (#3) Flexible and Film Items
	24_P29P - Plastic - PS (#6) Flexible and Film Items
	24_P34P - Plastic - Other/Mixed Plastics Textiles
<b>Food Service Ware - Utensils</b>	24_P19P - Plastic - PP (#5) Utensils
	24_P27P - Plastic - PS (#6) Utensils

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Food Service Ware - Containers</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P23P - Plastic - PS (#6) Expanded/Foamed Hinged Containers, Plates, Cups, Tubs, Trays, and Other Foamed Containers
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
<b>Food Service Ware - Cups</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P23P - Plastic - PS (#6) Expanded/Foamed Hinged Containers, Plates, Cups, Tubs, Trays, and Other Foamed Containers
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
<b>Food Service Ware - Lids</b>	24_P41P - Plastic - PP (#5) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P38P - Plastic - PET (#1) Other Rigid Containers, Cups, Lids, Plates, Trays, Tubs
	24_P43P - Plastic - PS (#6) Solid Hinged Containers, Plates, Cups, Tubs, Trays, and Other Solid Forms
	24_P47P - Plastic - Plastic Small - Two or more sides measuring 2 inches or less

<b>Format Cluster</b>	<b>Covered Material Categories Potentially Associated With That Format Cluster</b>
<b>Food Service Ware - Films and Flexibles</b>	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P5P - Plastic - PET (#1) Flexible and Film Items
<b>B2B Transport Packaging</b>	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P10P - Plastic - HDPE (#2) Flexible and Film Items
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P36P - Plastic - Other/Mixed Plastics Flexible and Film Items
	24_P20P - Plastic - PP (#5) Other Rigid Items
	24_P40P - Plastic - HDPE (#2) Other Rigid Items
	24_P35P - Plastic - Other/Mixed Plastics Rigid Items
<b>B2C E-Commerce Transport Packaging</b>	24_P46P - Plastic - Multi-Material Laminate Pouches and Envelopes
	24_P33P - Plastic - Multi-Material Laminate Other Forms
	24_P15P - Plastic - LDPE (#4) Clear Non-Bag Film
	24_P16P - Plastic - LDPE (#4) Other Flexible and Film Items
	24_P22P - Plastic - PP (#5) Other Flexible and Film Items
	24_P36P - Plastic - Other/Mixed Plastics Flexible and Film Items
<b>Non-Dominant Plastic Packaging with Plastic Component</b>	24_G1P - Glass - Glass Bottle and Jars with plastic component
	24_G2P - Glass - Glass Other Forms with plastic component

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Non-Dominant Plastic Packaging with Plastic Component - continued</b>	24_G3P - Glass - Glass Small - Two or more sides measuring 2” or less with plastic component
	24_C1P - Ceramic - Ceramic All Forms with plastic component
	24_C2P - Ceramic - Ceramic Small - Two or more sides measuring 2” or less with plastic component
	24_M1P - Metal - Aluminum Non-aerosol container with plastic component
	24_M2P - Metal - Aluminum Foil sheets with a plastic component
	24_M3P - Metal - Aluminum Foil Molded Containers with plastic component
	24_M4P - Metal - Aluminum Aerosol can with plastic component
	24_M5P - Metal - Aluminum Other Forms with plastic component
	24_M6P - Metal - Tin/Steel/Bimetal Non-aerosol container with plastic component
	24_M7P - Metal - Tin/Steel/Bimetal Aerosol can with plastic component
	24_M8P - Metal - Tin/Steel/Bimetal Other Forms with plastic component
24_M9P - Metal - Other Nonferrous All Forms with plastic component	

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Non-Dominant Plastic Packaging with Plastic Component - continued</b>	24_M10P - Metal - Other Ferrous All Forms with plastic component
	24_M12P - Metal - Metal Small - Two or more sides measuring 2” or less with plastic component
	24_PF1P - Paper and Fiber - Kraft Paper All Forms with plastic component
	24_PF14P - Paper and Fiber - Molded Fiber All Forms with plastic component
	24_PF15P - Paper and Fiber - Multi-Material Laminate Aseptic Cartons
	24_PF5P - Paper and Fiber - Multi-Material Laminate Gable-top Cartons
	24_PF7P - Paper and Fiber - Multi-Material Laminate Other Forms with plastic component
	24_PF8P - Paper and Fiber - OCC Waxed Cardboard with plastic component
	24_PF9P - Paper and Fiber - OCC Cardboard with plastic component
	24_PF10P - Paper and Fiber - Paperboard All Forms with plastic component
	24_PF11P - Paper and Fiber - White Paper All Forms with plastic component
	24_PF12P - Paper and Fiber - Other/Mixed Paper All Forms with plastic component

Format Cluster	Covered Material Categories Potentially Associated With That Format Cluster
<b>Non-Dominant Plastic Packaging with Plastic Component - continued</b>	24_PF16P - Paper and Fiber - Paper and Fiber Small - Two or more sides measuring 2" or less with plastic component
	24_WO1P - Wood and Other Organic Materials - Wood All Untreated Forms with plastic component
	24_WO2P - Wood and Other Organic Materials - Wood All Treated or Painted Forms with plastic component
	24_WO3P - Wood and Other Organic Materials - Other/Mixed Organic Textiles with plastic component
	24_WO4P - Wood and Other Organic Materials - Other/Mixed Organic Other Forms with plastic component
	24_WO6P - Wood and Other Organic Materials - Wood and Other Organic Materials Small - Two or more sides measuring 2" or less with plastic component

# Appendix H. Community Engagement Tables

Table H-72: Regional Overview of Engagement Considerations and Key Characteristics

	Bay Area	Coastal	Mountain	Southern	Valley
Counties	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma	Del Norte, Humboldt, Lake, Mendocino, Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz	Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Plumas, Sierra	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura	Butte, Colusa, Fresno, Glenn, Kern, Kings, Madera, Merced, Placer, Sacramento, San Joaquin, Shasta, Stanislaus, Sutter, Tehama, Tulare, Yolo, Yuba
CalEnviroScreen 4.0	Specific pockets of higher Cal EnviroScreen 4.0 scores in Alameda, Solano, Contra Costa, San Francisco, San Mateo, Santa Clara. Areas around the Bay	Low CalEnviroScreen 4.0 score with small areas of higher scores of 81 in parts of Santa Cruz and Santa Barbara	Low CalEnviroScreen 4.0 score.	High CalEnviroScreen 4.0 scores in urban areas around Los Angeles, San Diego, Imperial, Ventura, San Bernardino, Venture	Region with highest CalEnviroScreen 4.0 score including areas in Fresno, Madera, Merced, San Joaquin, Sacramento, Stanislaus, Kern, Kings, Tulare
Counties with SB 535 Disadvantaged Communities	Alameda, Contra Costa, San Francisco, Santa Clara, Solano, Sonoma	Monterey, Santa Barbara, Santa Cruz	None	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura	Butte, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Stanislaus, Sutter, Tulare, Yolo, Yuba

	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>
Language Needs (based on # of LEP households)	Spanish, Chinese, Vietnamese, Tagalog, Korean, Russian	Spanish	Spanish	Spanish, Russian, Korean, Chinese, Vietnamese, Tagalog	Spanish, Chinese, Hmong
Median Income (statewide: \$95,521)	\$100,027 - \$154,954	\$59,444-\$107,324	\$87,998-\$108,594 *Data from El Dorado and Nevada Counties	\$60,243-\$110,042	\$55,128 - \$109,713
Percentage Below Poverty Level* (statewide: 12%)	7.3%-12%	8.7%-17%	6.3%-11.2% *Data from El Dorado and Nevada Counties	9.10%-16.9%	6.4%-21.1%
Rural/ Urban/ Suburban Characteristic	Urban density in SF, Oakland, and San Jose. Suburban and rural areas in outer counties	Some urban density in Monterey, San Luis Obispo, Santa Barbara, and Santa Cruz. Lake, Del Norte, Humboldt, Mendocino, San Benito more split between rural/ suburban/ urban	Alpine, Mariposa, Modoc, Plumas, and Sierra are Rural. The other counties are a mix of suburban and rural	Urban density in LA	Urban density in Fresno, Kern, Sacramento, Stockton, and Modesto. Suburban in Placer, Sacramento outskirts, and Yolo. Mostly rural and agricultural in Colusa, Glenn, Kings, Madera, Sutter, Tehama, Tulare and Yuba. Mixed urban/n suburban/rural in Butte, Merced, San Joaquin, Stanislaus, and Shasta

	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>
Local Ordinances	<p>San Francisco: Plastic, Toxics and Litter Reduction Ordinance</p> <p>Berkeley: Single-Use Foodware Rules - \$2,500 Zero Waste grant for businesses</p> <p>Los Altos: Single-Use Plastic Foodware Ordinance and Plastic Bag Ordinance</p> <p>Alameda County: StopWaste Model Ordinance for Food Service Packaging Reduction and Reuse</p> <p>Plastic Straw/Utensil ban in most Bay Area cities</p>	<p>Monterey: Ban on Single-Use Plastic Bags</p> <p>Monterey: Environmentally acceptable food service ware</p> <p>Santa Cruz: Acceptable food service materials</p>	<p>City of Lake Tahoe and Truckee: Sale of Single-Use Bottles of Water is Banned</p> <p>South Lake Tahoe banned Styrofoam</p> <p>Mono County plastic water bottle ban</p>	<p>Limiting Single-Use Plastics in Los Angeles County Unincorporated Areas</p> <p>Imperial: Mandatory Organic Commercial Recycling</p> <p>Many city level ordinances or statewide legislations apply</p>	

	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>
Priority Populations and Engagement Consideration	<ul style="list-style-type: none"> <li>• Urban residents, environmental NGOs, and multicultural community organizations.</li> <li>• Immigrant communities, with emphasis on Cantonese, Spanish, and additional languages as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Fishing cooperatives and tourism operators facing marine-plastic impacts</li> <li>• Tribal communities with cultural and subsistence ties to coastal waters</li> <li>• Beach-cleanup CBOs and environmental-justice groups in Monterey, Santa Cruz and Humboldt</li> </ul>	<ul style="list-style-type: none"> <li>• Forest and watershed protection groups concerned about litter runoff into waterways</li> <li>• Tribal lands in Sierra foothills experiencing microplastic contamination</li> <li>• Outdoor-recreation outfitters and conservation organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Neighborhood CBOs in environmental-justice hotspots (East LA, Wilmington)</li> <li>• Immigrant-serving organizations in Los Angeles, San Diego and the Inland Empire</li> <li>• Retail and hospitality associations exploring local reuse/refill business models</li> </ul>	<ul style="list-style-type: none"> <li>• Farmworker families and agricultural associations coping with plastic mulch pollution</li> <li>• Rural environmental-justice CBOs in Fresno, Bakersfield and Stockton</li> <li>• Local health-advocacy groups studying microplastics in groundwater</li> </ul>

\*As designated in the Census (<https://www.census.gov/topics/income-poverty/poverty/about.html>)

**Table H-73: CBO and College Participants and Invitees**

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Bay Area</b>	Students for a Sustainable Stanford	Students	X	
<b>Bay Area</b>	Reuse Alliance	Low-income communities Limited English proficient communities Farmworkers	X	
<b>Bay Area</b>	Multicultural Center of Marin	Youth Latinx Immigrant Vietnamese	X	
<b>Bay Area</b>	Sustainable Contra Costa	EJ Youth	X	
<b>Bay Area</b>	Asian Pacific Environmental Network (APEN)	AAPI Low-income Urban	X	
<b>Bay Area</b>	Rose Foundation (New Voices Are Rising)	Youth BIPOC	X	
<b>Bay Area</b>	Rise South City	Frontline communities Latinx EJ	X	
<b>Bay Area</b>	CARAS (Community Agency for Resources, Advocacy, and Services)	Latinx EJ	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Bay Area</b>	Breathe California	EJ	X	
<b>Bay Area</b>	HayCoCoa (Hayward Community Coalition)	Communities of color EJ	X	
<b>Bay Area</b>	Family Connections	Spanish Vietnamese Chinese	X	
<b>Bay Area</b>	Citizen Air Monitoring Network	EJ	X	
<b>Bay Area</b>	UC Berkeley Zero Waste Coalition	Students		X
<b>Bay Area</b>	Story of Stuff	N/A		X
<b>Bay Area</b>	Sustainable Solano	Youth EJ		X
<b>Bay Area</b>	Alameda Point Collective	Unhoused Low-income		X
<b>Bay Area</b>	Climate Resilient Communities	Samoan and Tongan EJ		X
<b>Bay Area</b>	Community Youth Center (CYC)	Youth Chinese EJ		X
<b>Bay Area</b>	Sonoma Central Valley Collaborative	Latinx		X

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Bay Area</b>	Literacy for Environmental Justice	EJ		X
<b>Bay Area</b>	La Raza	Immigrants Latinx		X
<b>Bay Area</b>	El Concilio	Latinx Low-income		X
<b>Bay Area</b>	Booker T Washington Center	Black/African American		X
<b>Bay Area</b>	Unitedly	Asian		
<b>Bay Area</b>	UC Santa Cruz Zero Waste	Students		X
<b>Coastal</b>	Mendocino Food and Nutrition Program	Low-income communities Limited English proficient communities Seniors Unhoused	X	
<b>Coastal</b>	Surfrider	Coastal	X	
<b>Coastal</b>	Lake Family Resource Center	Youth Low-income Rural Seniors		
<b>Coastal</b>	Barrios Unidos	Low-income Communities of Color Youth	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Coastal</b>	Mujeres En Acción	Latinx Women Communities of Color Farmworkers Tribal	X	
<b>Coastal</b>	The Village Project	BIPOC LGBTQ+ Youth Low-income Communities of Color People with disabilities Black/African American	X	
<b>Coastal</b>	Communities for Sustainable Monterey County	EJ	X	
<b>Coastal</b>	Friends of the Lost Coast	Coastal	X	
<b>Coastal</b>	California State University, Cal Poly San Luis Obispo Zero Waste Ambassador	Students	X	
<b>Coastal</b>	Arcata House Partnership	Low-income Rural People with disabilities Unhoused		X
<b>Coastal</b>	Community Bridges	Low-income Limited English Proficient Seniors		X

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Coastal</b>	Mixteco Indigena Community Organizing Project (MICOP)	Indigenous Migrant communities		X
<b>Coastal</b>	Community Action Partnership of San Luis Obispo	Low-income Youth Families Seniors Veterans Limited-English proficient		X
<b>Coastal</b>	Bright and Green Humboldt	Rural Agricultural	X	
<b>Coastal</b>	Leader4Earth	EJ	X	
<b>Mountain</b>	Inyo Mono Advocates for Community Action (IMACA)	Rural	X	
<b>Mountain</b>	Growing Modoc	Rural	X	
<b>Mountain</b>	LassenWORKS	Rural Low-income Families	X	
<b>Mountain</b>	Modoc Resource Conservation District	Rural Agricultural	X	
<b>Mountain</b>	Mono Lake Committee	Rural EJ	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Mountain</b>	Sierra Business Council	Rural Small businesses CBOs	X	
<b>Mountain</b>	Sierra Climate Adaptation and Mitigation Partnership and Sierra Business Council	Rural Small businesses CBOs	X	
<b>Mountain</b>	Lassen - Plumas - Sierra Community Action Agency	Rural Low-income Families		X
<b>Mountain</b>	United Way of Northern California	Low-income Unhoused Rural		X
<b>Mountain</b>	Tiny Mighty Strong	Rural		X
<b>Mountain</b>	Friends of Plumas Wilderness	Rural EJ		X
<b>Mountain</b>	Sierra Nevada Alliance	Rural/suburban EJ	X	
<b>Mountain</b>	Friends of the Inyo	Rural EJ		X
<b>Southern</b>	Food Access LA	Low-income Youth EJ Families	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Southern</b>	San Diego Miramar Community College Sustainability Club	Students	X	
<b>Southern</b>	Environmental Health Coalition	EJ	X	
<b>Southern</b>	The 5 Gyres Institute	EJ	X	
<b>Southern</b>	Orange County Environmental Justice (OCEJ)	EJ	X	
<b>Southern</b>	Central City Neighborhood Partners	Low-income Youth EJ Families	X	
<b>Southern</b>	San Diego Mesa College	Students	X	
<b>Southern</b>	The Energy Coalition	EJ	X	
<b>Southern</b>	Heal the Bay	EJ Coastal		X
<b>Southern</b>	Multi-Ethnic Collaborative of Community Agencies (MECCA)	EJ Working class Communities of color Multicultural		X
<b>Southern</b>	El Concilio Family Services	Latinx Low-income EJ		X

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Southern</b>	San Diego Coastkeeper	EJ		X
<b>Southern</b>	Comite Civico del Valle, Inc.	Latinx EJ	X	
<b>Southern</b>	Center for Community Action and Environmental Justice	EJ Working class Communities of color	X	
<b>Southern</b>	Chancellor's Associate Scholarship Program (CASP)	Students	X	
<b>Southern</b>	Imperial Central Valley Food Bank	Low-income EJ		X
<b>Valley</b>	Atrium 916	N/A	X	
<b>Valley</b>	African American Network of Kern County	Black/African American Low-income Essential workers Communities of color EJ	X	
<b>Valley</b>	Stone Soup Fresno	Hmong/Laotian Arabic-speaking Refugee EJ Low-income Essential workers	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Valley</b>	Camptonville Community Partnership	Rural Low-income Youth	X	
<b>Valley</b>	Central Valley Improvement Projects	Low-income Working class Communities of color Immigrants Spanish-speakers LGBTQ Religious minorities Indigenous Youth Elders People with disabilities Houseless community EJ	X	
<b>Valley</b>	Merced Lao Family Community	Lao EJ	X	
<b>Valley</b>	Public Health Advocates	Youth Low-income Communities of color	X	
<b>Valley</b>	Modesto Junior College Climate and Sustainability Task Force	Students	X	

<b>Region</b>	<b>Organization</b>	<b>Priority Populations</b>	<b>Participated</b>	<b>Invited (did not participate)</b>
<b>Valley</b>	California Farmworker Foundation	Hmong Youth EJ Low-income Communities of color Undocumented Farmworkers Spanish-speakers		X
<b>Valley</b>	Little Manila Rising	Filipino Low-income Communities of color EJ		X
<b>Valley</b>	California Urban Partnership	Tribal communities and sovereign nations Black/African American communities Small businesses EJ		X
<b>Valley</b>	Hands of Hope: Resources for Homeless Families	Low-income People with disabilities Unhoused		X
<b>Valley</b>	Californians Against Waste	EJ Rural Low-income		X
<b>Valley</b>	Hmong Cultural Center of Butte County	Hmong	X	

**Table H-74: Focus Group Participant Demographics**

	<b>Total Participants</b>	<b>71</b>
<b>Regions</b>	San Francisco Bay Area	19
	Coastal	10
	Mountain	8
	Southern	20
	Central Valley	14
<b>Housing Type</b>	Single-family	38
	Multi-family	32
	Unhoused/unstable	1
<b>Income Range</b>	Under \$50,000	24
	\$50,001 - \$76,000	24
	\$76,001 - \$115,000	8
	\$115,001 - \$150,000	6
	Over \$150,000	6
<b>Race / Ethnicity</b>	Latino/a/x or Hispanic	36
	Asian or Pacific Islander	17
	White	12
	Black / African American	7

	<b>Total Participants</b>	<b>71</b>
<b>Age Range</b>	18 - 24	11
	25 - 34	30
	35 - 50	17
	51 - 64	11
	65 or older	2
<b>Community Type</b>	Rural	23
	Suburban	22
	Urban	26
<b>Gender Identity</b>	Female	48
<b>Gender Identity</b>	Male	21
	Non-binary / Gender non-conforming	2
<b>Environmental Justice Community</b>	Lives in EJ community	46
<b>Participants with Disabilities</b>		2

# Bibliography

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- <sup>1</sup> Top 9 eCommerce Categories Fueling Us Online Shopping Growth. (n.d.). [www.mobiloud.com](http://www.mobiloud.com).  
<https://www.mobiloud.com/blog/top-ecommerce-categories-in-the-us>
- <sup>2</sup> Fortune Business Insights. (n.d.). U.S. hotel toiletries market.  
<https://www.fortunebusinessinsights.com/u-s-hotel-toiletries-market-106825>
- <sup>3</sup> Precedence Research. (n.d.). Household cleaning products market.  
<https://www.precedenceresearch.com/household-cleaning-products-market>
- <sup>4</sup> Grand View Research. (n.d.). U.S. commercial cleaning products market report.  
<https://www.grandviewresearch.com/industry-analysis/us-commercial-cleaning-products-market-report>
- <sup>5</sup> U.S. Department of Agriculture, Economic Research Service. (n.d.). Food service industry: Market segments.  
<https://www.ers.usda.gov/topics/food-markets-prices/food-service-industry/market-segments>
- <sup>6</sup> Keane, A. (2023). Keynote presentation at Global Pouch Forum. Packaging Strategies.  
[https://www.packagingstrategies.com/ext/resources/Events/Global-Pouch-Forum/presentations-gpw/AlisonKeane\\_KEYNOTE.pdf](https://www.packagingstrategies.com/ext/resources/Events/Global-Pouch-Forum/presentations-gpw/AlisonKeane_KEYNOTE.pdf)
- <sup>7</sup> Uline. (n.d.). Uline 2 Mil Reclosable Bags.  
[https://www.uline.com/BL\\_208/Uline-2-Mil-Reclosable-Bags?keywords=product+bags](https://www.uline.com/BL_208/Uline-2-Mil-Reclosable-Bags?keywords=product+bags)
- <sup>8</sup> Grand View Research. (2023). Rigid plastic packaging market report.  
<https://www.grandviewresearch.com/industry-analysis/rigid-plastic-packaging-market-report>
- <sup>9</sup> Polycase. (n.d.). LP-35P enclosure. <https://www.polycase.com/lp-35p>
- <sup>10</sup> See analysis in current state evaluation report.
- <sup>11</sup> National Center for Education Statistics. (2023). Public school summary tables.

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[https://nces.ed.gov/ccd/tables/202324\\_summary\\_3.asp](https://nces.ed.gov/ccd/tables/202324_summary_3.asp)

<sup>12</sup> California Department of Education. (2023). Private school enrollment counts by year.

<https://www.cde.ca.gov/ds/si/ps/psastatcountsbyyear.asp>

<sup>13</sup> California Department of Corrections and Rehabilitation. (2023). Adult institutions facility locator.

<https://www.cdcr.ca.gov/facility-locator/adult-institutions/>

<sup>14</sup> CalRecycle. (2023). Beverage container recycling convenience zones.

<https://www2.calrecycle.ca.gov/BevContainer/ConvenienceZones>

<sup>15</sup> California Assisted Living Association. (2023). Residential care facilities for the elderly by the numbers.

[https://www.caassistedliving.org/CALA/Residents\\_Families/Senior\\_Living\\_in\\_California/RCFEs\\_by\\_the\\_Numbers.aspx](https://www.caassistedliving.org/CALA/Residents_Families/Senior_Living_in_California/RCFEs_by_the_Numbers.aspx)

<sup>16</sup> Consultant estimate based on previous project experience.

<sup>17</sup> Indeed. (2025). Restaurant consultant salaries.

<https://www.indeed.com/career/restaurant-consultant/salaries?cgtk=8775f537-5bc3-46e5-a236-87e873b3db57&from=careeradvice-US>. Accessed October 2025.

<sup>18</sup> Business Analytiq. (2025). Business Analytiq index. <https://businessanalytiq.com/index/>

<sup>19</sup> British Plastics Federation. (2011). Energy management in plastics processing.

<https://tangram.co.uk/wp-content/uploads/BPF-Energy-Management-in-Plastics-Processing.pdf>

<sup>20</sup> GoUnpackaged; Aldi UK; Ocado Retail; CHEP. (2025). The Refill Coalition trials: Key learnings for industry (White paper).

[https://sustainability.ocadoretail.com/wp-content/uploads/2025/07/The-Refill-Coalition\\_Key-Learnings-for-Industry\\_April-2025.pdf](https://sustainability.ocadoretail.com/wp-content/uploads/2025/07/The-Refill-Coalition_Key-Learnings-for-Industry_April-2025.pdf)

<sup>21</sup> Platt, M. (2024). How many bags get returned? Yoyo Grocery Co.

<https://yoyogrocery.co/blogs/update/how-many-bags-get-returned>

<sup>22</sup> Reloop Platform. (2024). Global Deposit Book 2024 (5th ed.).

---

<https://www.reloopplatform.org/resources/global-deposit-book-2024/>

<sup>23</sup> TOMRA. (2025, May 27). TOMRA unveils automated collection point for reusable takeaway food packaging.

<https://www.tomra.com/news-and-media/news/2025/tomra-unveils-automated-collection-point-for-reusable-takeaway-food-packaging>

<sup>24</sup> Vytal. (2025). Point of sale (POS) solutions. <https://www.vytal.org/solutions/pos> (Accessed December 7, 2025)

<sup>25</sup> Hubbub. (2023). Bring It Back Fund: Impact and learning (Report).

[https://issuu.com/hubbubuk/docs/2023.01.22\\_bring\\_it\\_back\\_fund\\_impact\\_report\\_bb\\_fin](https://issuu.com/hubbubuk/docs/2023.01.22_bring_it_back_fund_impact_report_bb_fin)

<sup>26</sup> The Brussels Times; Belga. (2024). Record number of reusable cups at Belgian festivals.

<https://www.brusselstimes.com/1196524/record-number-of-reusable-cups-at-belgian-festivals>

<sup>27</sup> Fringe World Festival; Bettercup. (2025). Case study: Fringe World — Return rate and outcomes (Report).

<https://www.bettercup.com.au/case-studies>

<sup>28</sup> Sydney Opera House; Bettercup. (2024). Case study: Vivid LIVE reusable cup trial (Report).

<https://www.bettercup.com.au/case-studies>

<sup>29</sup> KIDV. (2025). Reusable packaging calculation tool. <https://kidv.nl/reusable-packaging-calculation-tool>

<sup>30</sup> Bureau of Transportation Statistics. (2025). Average freight revenue per ton-mile. U.S. Department of Transportation. Retrieved November 7, 2025, from <https://www.bts.gov/content/average-freight-revenue-ton-mile>

<sup>31</sup> U.S. Census Bureau. (2023). Annual estimates of the resident population for counties: April 1, 2020 to July 1, 2023 [Data set].

<https://www2.census.gov/programs-surveys/popest/tables/2020-2023/counties/totals/co-est2023-pop.xlsx>

<sup>32</sup> Estimated by the contractor using Google Maps.

<sup>33</sup> California Department of Resources Recycling and Recovery. (2025, January 1). SB 54 Covered Material Category List January 2025 Update. CalRecycle. <https://www2.calrecycle.ca.gov/Docs/Web/129525>