Best Management Practices: Commingled Residential Recycling

Due to recent changes in recycling markets, curbside commingled recycling programs may need to be updated to ensure the best use of recyclable materials collected at the curb.

This guide provides best management practices (BMPs) on what recyclables to include in curbside programs and why. These BMPs were developed based on research and input from stakeholders throughout the recycling process – local governments, collectors, material recovery facilities, and end-users. This document is intended for use by local governments and recycling collection companies who design and provide recycling services to residents and businesses.

Commingled curbside recycling

Commingled recycling – also known as mixed or single-stream recycling – require that residents place all recyclables into one bin at the curb. The materials in the bin are picked up by a recycling company and brought to a material recovery facility (MRF). The MRF sorts the material into individual commodity streams such as glass, paper, plastics, and metals.

Commingled recycling has increased in popularity because it is easy for residential customers to put all their recyclables in one cart, costs cities less money, and increases recycling collection rates.

However, due to confusion about what is recyclable and what is not, residents often contaminate recyclable material by placing garbage and other non-recyclable items in the commingled bin. In some cases, accepted materials can even cross-contaminate other recyclables in the bin.

Ecology has been working with stakeholders to track contamination issues for many years, and has published two studies:

- Optimizing the Commingled Recycling Systems in Northwest Washington
- Beyond the Curb - Tracking the Commingled Residential Recyclables from Southwest WA

High levels of contamination in commingled recycling programs have led to challenges in finding end markets for collected materials.

Yes ✓ Include in your commingled cart

Paper (including office and notebook paper, newspaper, phone directories, mail, catalogues, magazines, and cereal or cracker boxes)

Why? Paper is compatible with commingled collection and processing systems. Local and export end-use markets use recycled paper to create mixed or corrugated paper grades.

BMP: Paper should be clean and dry. No shredded paper.

Corrugated cardboard

Why? Cardboard is compatible with commingled collection and processing systems. There are strong local and export end-use markets for these materials.

BMP: Cardboard boxes should be clean, dry, and flattened. Discourage setting cardboard outside of the bin where it is exposed to rain and moisture.

Plastic bottles and jugs (clear, colored, and natural)

Why? Bottles and jugs (usually PET (#1) and HDPE (#2)) are compatible with commingled collection and processing systems. There are strong local and export end-use markets for these materials.

BMP: Refer to the shape of the bottle or jug to determine if the item is recyclable, instead of relying on the resin number.

Steel and aluminum cans

Why? Cans are compatible with commingled collection and processing systems. Local end-use markets recycle cans into scrap steel or used beverage container grades.

BMP: Do not crush cans. Lids from steel cans should remain attached or securely placed within the can and squeezed to keep them from falling out. Loose metal lids should be thrown away, as they are commonly missorted into paper bales and cause safety hazards for employees.

Aluminum foil and trays

Why? Aluminum trays and foil burn up during processing because they melt at lower temperatures than aluminum cans. They have no value in the recycling system. This material also ends up contaminating paper bales, as it is easily flattened and can move through the processing system like paper. Aluminum is usually contaminated with food as well.

BMP: Throw aluminum foil and trays in garbage.

Textiles

Why? Clothing and textiles can wrap around MRF machinery and contaminate material streams.

BMP: Donate to charity organizations. Some charities participate in local programs such as Threadcycle where old and worn out clothing and textiles are reused or recycled.

Use caution before including in your commingled cart

Talk with your hauler, MRF, and end-users to decide if the following materials should be included in your commingled recycling cart.

Glass

Why? Glass breaks in curbside bins and at MRFs. Domestic paper mills cannot use paper from commingled recycling programs because it is contaminated with broken glass. Broken glass causes damage to paper processing machinery and degrades the value of paper fiber. In addition, glass is heavy and expensive to transport for processing. Glass collected in commingled systems has limited uses and often ends up as road fill and alternative daily cover in landfills.

BMP: Collect glass separately from other materials. This prevents broken glass from contaminating paper fiber. Send glass to a secondary processor, when possible.

Paper cups, cartons, and aseptic containers (unless separated by MRF for specific markets)

Why? Paper products that hold liquids (polycoated paper cups, cartons, and aseptic containers) do not break down in water and contaminate paper at kraft paper mills. Cartons are prohibited in mixed paper bales by Chinese import regulations. These products are usually contaminated with food and liquids as well.

BMP: Sort cups, cartons, and aseptic containers into separate bales, if specialized end markets are available. Require MRFs to provide documentation regarding end-market availability.

Frozen and refrigerated food boxes (wet-strength paperboard)

Why? Paper products intended to be frozen or refrigerated (wet-strength) do not break down in water and contaminate paper at kraft paper mills.

BMP: Collect only if end markets are available. Rinse and sort with cartons and aseptic containers.

Paper egg and berry cartons

Why? Due to possible food contamination, paper egg and berry cartons in paper bales are prohibited by Chinese customs. They are also made from low quality paper fiber and have limited end-markets.

BMP: Collect only if end markets are available.