



# RECYCLING DETAILS FOR PAPER & PLASTIC FOODSERVICE PACKAGING IN CALIFORNIA

Accepting a wide range of materials can be a valuable differentiator in a competitive market. And, as California looks to meet its 75% diversion goal, MRFs and their communities may be looking for additional materials to recycle. Paper and plastic cups, containers and boxes, as well as paper bags, have good flow potential in a MRF, have available end markets, and make up the largest share of foodservice packaging volume.



## MATERIAL STREAM VOLUME

As MRFs consider accepting cups, containers, boxes and paper bags, it is important to have an idea of how much material this will generate. Based on average size and weight of these items, the following is a good estimate:

- In a city of 250,000 people, roughly 3,000 tons of cups, containers, boxes and paper bags are generated annually. About 75% of this material is fiber.
- A ten percent recovery rate – which is a realistic initial goal for new materials – would mean the addition of about 300 tons annually for the facility, consisting of approximately 230 tons of paper and 70 tons of plastic.



## SORTING AT THE MRF

MRFs may wonder how cups, containers, boxes, and paper bags might flow in their facilities, from the tip floor to the bunkers. To determine that, and to identify best practices to ensure more recyclables are actually recycled, FPI co-funded the MRF Material Flow Study. Takeaways from the study include:

- Cups and round/3D containers flow primarily to the container line in a single stream MRF.
- Properly maintaining the disc screens (cleaning and replacing discs) can significantly reduce loss of containers to the paper stream.
- Dual stream systems offer the advantage of reducing loss of plastics and other containers to the paper streams.
- Implementation of best practices for accurate 2D/3D separation in single stream MRFs helps maximize flow to the correct bales.

To enable proper sorting at the MRF, residents should be instructed to empty containers containing liquid or food before recycling and avoid crushing or flattening them. [Read more](#) about how foodservice items flow in a MRF.



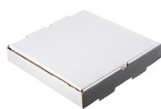
## END MARKETS

### PAPER CUPS, CONTAINERS, BOXES AND BAGS

There are domestic and international markets that will purchase recovered cups, containers, boxes and paper bags as part of commonly traded commodities generated by California and other West Coast MRFs. More specifically, according to a 2016 study of California MRFs conducted by Moore Recycling, paper cups and take-out containers were most often included in a mixed paper bale.



- **Clay coated and uncoated paper containers** make up over 75% of the targeted paper products and typically include items such as trays and folding containers. They can be sorted into a commodity such as No. 58 sorted clean news (SCN); No. 56 sorted residential papers & news (SRPN); or No. 54 mixed paper (MP).



- **Pizza boxes** are an acceptable inclusion for nearly all major domestic end markets for recovered corrugated (OCC bales) as long as they are empty and reasonably clean and dry (moderate grease staining is NOT a concern). Confirm acceptance with your markets.



- **Polycoated paper cups and containers** may find a home in any of several bales, depending on the market. There are several North American buyers of polycoat bales that welcome paper cups and containers in addition to beverage cartons. FPI is also aware of domestic mills that accept paper cups and containers as part of No. 56 Sorted Residential Papers and News (SCP), No. 54 Mixed Paper (MP), No. 37 Sorted Office Paper (SOP), and No. 52 Beverage Cartons; and we can help put you in contact with these mills. In addition, testing is being conducted by several domestic markets for mixed paper and other fiber grades to determine their acceptability. Note that less than a quarter of all paper cups, containers, boxes and bags are polycoated.



- **Paper bags** are an acceptable material in commonly traded fiber bales. They can be sorted into commodities such as No. 11 Old Corrugated Cardboard (OCC), and No. 54 Mixed Paper (MP).

### PLASTIC CUPS AND CONTAINERS

The end markets that are most accessible to California MRFs include both domestic and international markets. The common types of plastic cups and containers can be recovered through commonly traded commodity bales. In fact, rigid plastic cups and take-out containers are most often included in a pre-picked rigid plastic bale, according to a 2016 study of California MRFs conducted by Moore Recycling.



- **PET cups and containers** can be recovered in a "Pre-picked (#3-7)" bale. In California, where the markets favor pure CRV bottle bales without thermoforms, a new thermoform market is slated to open in late 2018. FPI is working with industry leaders to advance end markets for PET cups and containers. Contact FPI for referrals.



- **Polypropylene cups and containers** can be recovered in a polypropylene bale, a "tubs and lids" bale or a "Pre-picked (#3-7)" bale. In light of recent changes in the export market landscape, more MRFs are sorting PP into a dedicated bale. There are several West Coast markets for polypropylene and "tubs and lids" bales.



- **Polystyrene (PS) cups and containers:** Rigid polystyrene cups and containers can be included in a polystyrene or a "Pre-picked (#3-7)" bale. There are domestic markets for rigid PS, and a West Coast market is under construction. [Foam polystyrene cups and containers may be densified and recovered separately, or sometimes baled with rigid PS or with mixed plastics. For more information on foam recycling, please check out [www.recyclefoam.org](http://www.recyclefoam.org).]



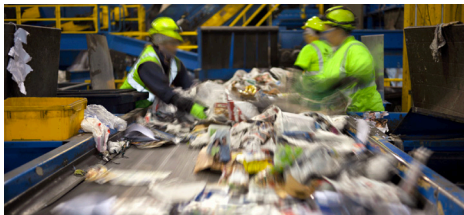
- **Polyactic acid (PLA) cups and containers** are similar in appearance to PET, PP and PS cups and containers, though they are marked #7 and often labeled as compostable. They can be included in a PLA or "Pre-picked (#3-7)" bale. The PLA recycling market is still young, with strides being made on its collection, processing and markets. Currently, PLA is being recovered from several California communities through a secondary processor.

FOR MORE INFORMATION AND AN INTERACTIVE MAP OF KNOWN  
NORTH AMERICAN END MARKETS, VISIT OUR [END MARKETS PAGE](#).





## ANSWERS TO YOUR FREQUENTLY ASKED QUESTIONS



### WHO IS ALREADY ACCEPTING CUPS, CONTAINERS, BOXES AND PAPER BAGS?

According to a 2016 Moore Recycling survey of California MRFs (in which respondents represented about 80% of total California MRF volumes processed), acceptance of these items is widespread and varied by type of item. Over half of MRFs responding accept paper cups and takeout containers, and over three-quarters of them accept pizza boxes, molded fiber, and plastic cups and containers.



### ISN'T FOOD RESIDUE A PROBLEM?

Two studies show that there is no significant difference in levels of food residue on foodservice packaging recycled at curbside as compared to other commonly recycled food-contact items like bottles, jars or cans. [Read more](#) about the 2013 and 2014 studies. This suggests that residents prepare cups, containers, boxes, and paper bags for recycling just like they would prepare other recyclables. Of course, a strong emphasis on quality is essential to the success of any recycling program. FPI has developed a number of resources to help programs educate residents on the importance of recycling clean, empty items. A customizable flyer, graphics, and other communications materials are available at in our Resident Education Kit.



### HOW WILL CUPS, CONTAINERS, BOXES AND PAPER BAGS IMPACT EXISTING BALES?

Adding cups, containers, boxes and paper bags to existing bales makes very little difference to their composition. This is because these items are a relatively small part of the overall stream of residential materials and are generally made of the same substrates already present in the bale. In typical sorting scenarios, the cups, containers, boxes, and paper bags would make up less than 5% of most bales, assuming a 10% recovery rate. The exception to this is for low-volume specialty commodities, where the cups and containers could represent a significant boost in volume. [Read more](#) about estimated prevalence of these items in bales, including OCC, poly-coated cartons, PET plastics, and #3-7 plastics. Our current projections are based on a recovery rate of 10% - keep in mind that PET bottles, which are widely accepted for recycling, have a recovery rate of around 30% several decades after PET recycling began. Of course, if programs are successful in growing the recovery rate of cups, containers, boxes, and paper bags beyond 10%, the quantity in bales in increase, but overall bale composition can be expected to change as a result of trends in consumption and recycling market conditions.

## ADDITIONAL QUESTIONS?

For any material or market related questions, or to connect with FPI directly, please visit [www.RecycleFSPinCA.org](http://www.RecycleFSPinCA.org)

