

# RECYCLING DETAILS FOR PAPER & PLASTIC FOODSERVICE PACKAGING

Resources for MRFs



**FOODSERVICE PACKAGING (FSP)** covers a wide range of material types and products. With paper FSP, we're initially targeting the inclusion of **cups, containers, boxes and bags** as acceptable material in MRFs and residential recycling programs. With plastic FSP, we're targeting the inclusion of **cups and containers**. These identified categories of material generate the most volume, with good flow potential in a MRF, and available end markets.



## MATERIAL STREAM VOLUME

As MRFs consider accepting foodservice packaging, it is important to have an idea of how much material this will generate. Based on the target material form and size, as well as the identified volume of cups, containers, boxes and bags the following is a good estimate:

- In a city of 250,000 people, roughly 3,000 tons of paper cups, containers, boxes and bags and plastic cups and containers are generated annually.
- A ten percent recovery rate – which could be a realistic initial goal for new materials – would mean the addition of about 300 tons annually for the facility = approximately 240 tons of paper and 60 tons of plastic.



## MARKETS

The good news for FSP recycling is that there are domestic and international markets that will purchase recovered foodservice packaging as part of commonly traded commodities. For paper and plastic foodservice packaging:

### PAPER FOODSERVICE PACKAGING:

- **Clay coated and uncoated paper** containers when accepted are sorted into a "mixed paper" bale. These make up about two-thirds of our targeted paper FSP products and typically include items such as trays, and folding containers.
- **Pizza boxes** are an acceptable inclusion for most OCC markets.
- **Poly coated paper cups and containers** may find a home in a "carton" bale. In addition work is currently being done with the mixed paper markets to determine their acceptability. Note that only about a third of all paper FSP is poly coated.
- **Paper bags** are an acceptable material in "mixed paper" bales.

### PLASTIC FOODSERVICE PACKAGING:

- **PET cups and containers** can be recovered either in a "Pre-picked (#3-7)" bale or a "PET Bottle" bale. MRFs are encouraged to talk to their PET bottle markets to see if they'll accept PET thermoforms in bottle bales. PET reclaimers that do accept PET thermoforms in their bottle bales prefer material from MRFs with automated sorting of PET.
- **Polypropylene cups and containers** can be recovered in a polypropylene bale, a "Tubs and Lids" bale or a "Pre-picked (#3-7)" bale.
- **Polystyrene (PS) cups and containers** can be included in a polystyrene or a "Pre-picked (#3-7)" bale. Foam polystyrene cups and containers may be densified and recovered in a separate bale or sometimes in a "Pre-picked (#3-7)" bale. For more information on foam recycling, please check out [www.recyclefoam.org](http://www.recyclefoam.org).
- **Poly lactic acid (PLA) cups and containers** 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.

**For more information about North American end markets and an interactive map, visit our [end markets page](#).**

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## ANSWERS TO YOUR FSP QUESTIONS: RESULTS OF RECENT STUDIES

### • Who is Already Accepting FSP?

According to a study of 62 MRFs (making up about 25% of total US MRF volume), including nearly 50 of the largest MRFs in the U.S. and Canada, acceptance of FSP is widespread and varied greatly by type of packaging item. Nearly two-thirds of the MRFs surveyed accepted 10 or more of the 19 types of FSP included in the study. Pizza boxes and paper carry-out bags were the most widely accepted, followed by plastic cups and containers. [Read more.](#)

### • Isn't Food Residue a Problem?

Two recent studies have shown that foodservice packaging is no more contaminated with food than other commonly recycled food-contact items like bottles, jars or cans. [Read more](#) about the 2013 and 2014 studies.

### • How will FSP Impact Existing Bales?

Adding foodservice packaging to existing bales makes very little difference to their composition. [Click here](#) for estimated prevalence of FSP in bales.

- OCC
- Poly-coated cartons
- PET plastics
- #3-#7 plastics

To test the impact of paper FSP in mixed paper bales, a bale audit was conducted with bales purchased from New York City and Seattle markets. FSP made up an average of 0.48% of bale weight in Seattle and 0.28% of bale weight in New York City. These cities were selected because they accept a wide-range of paper FSP for recycling. [Click here](#) for the overview of the study.

To test the impact of plastic cups in rigid plastic bales, bale sorts were completed in 2011 and 2015 to compare the volume of plastic cups in pre-picked rigid plastic and polypropylene bales. Throughout the U.S., communities are actively adding non-bottle rigids to their recycling collection program and both grades saw an increase in the volume of plastic cups present.

### • How Does FSP Behave in a MRF?

The MRF Material Flow Study was a multi-stakeholder research effort that examined the behavior of numerous individual products in the MRF, yielding data on cups, clamshells, containers, domes/trays, bottles, tubs, lids, gable-top and aseptic cartons, and other materials. The study aimed to identify best practices to ensure more recyclables are actually recycled. The MRFs at which this study was conducted were chosen to represent the wide diversity of facilities that currently process recyclables nationwide. Here are some key takeaways from the study:

- 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.

[Read more](#) about FSP movement in a MRF.

## ADDITIONAL QUESTIONS?

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

