

RECYCLABILITY

QUICK REFERENCE

In general, the term **“recyclable”** refers to materials or products that can be collected, processed, and transformed into new products instead of being sent to the landfill as trash.

However, there are several factors to consider when determining a material or product’s true recyclability. Specifically for packaging recyclability, we assess:

DEFINITION OF RECYCLABILITY

***Each of these five factors can vary for the same material depending on what state or city you are in, and the capabilities of the specific MRF that material is sent to.

Consistency, Common Sense, Consumer Experience, Material Health



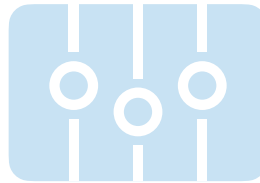
Applicable Law

Laws may set standards for what materials can be recycled, how they are labeled for disposal to reduce consumer confusion, and how they should be processed.



Collection

Recyclability depends on access to recycling infrastructure, consumer participation, material composition, and collection costs. Different packaging may or may not be collected in different areas.



Sortation

Packaging must be sorted by type to be reprocessed. How well materials are sorted in a MRF (see next page) depends on size, shape, color, and other physical attributes. Products designed with recycling in mind are more likely to be effectively sorted and recycled.



Reprocessing

This is how easy it is to reprocess recyclables into new usable materials. For example, entities who assess material recyclability often consult the [Association of Plastic Recyclers \(APR\)'s Design Guides](#) and paper testing protocols to consider if materials will be successfully processed by reclaimers and paper mills.



End Market

Even if materials are technically recyclable, there must be a buyer (“end market”) for the recycled material who will use it to make something new. End markets are assessed based on factors like demand, scale, value, and time.

Graphic adapted from How2Recycle

WAYS TO IMPROVE RECYCLABILITY WITH PACKAGING DESIGN

IMPROVING COLLECTION & SORTABILITY

- Displaying clear instructions for end users to properly disassemble and recycle the package
- Designing simple structures that are easy for consumers to disassemble
- Considering size and shape such that the package will easily be sorted at a MRF

IMPROVING RECYCLABILITY

- Using just one type of material throughout the package
- Consulting reprocessability or repulpability testing for materials
- Avoiding problematic coatings, adhesives, labels, or inks

THE MODERN MRF

QUICK REFERENCE

A **materials recovery facility**, or **MRF**, is a solid-waste management plant that receives, sorts, separates, and prepares recyclable paper and packaging materials to sell to end-user manufacturers (“reprocessors”). The end-user manufacturer will then use the recovered material (“feedstock”) to make new products.

MRFs use a combination of mechanical processes and manual labor to sort and prepare recyclable materials for further processing.



Common Waste Streams MRFs Handle

- Cardboard
- Mixed paper
- Aluminum & steel cans
- Some types of plastic (plastics #1, #2, & sometimes #5)
- Glass (sometimes)

This depends on a MRF’s ability to effectively sort the material and if there are strong end markets for those materials.

Challenges MRFs Often Face

- Consumer education & dealing with contaminants like batteries and plastic films (which disrupt machinery & operations, can cause fires, etc.)
- Meeting industry quality standards for recycled materials
- Operational costs
- Funding for new sortation technology to improve yields and bale quality
- Finding stable end markets for recycled materials

OVERVIEW OF THE RECYCLING PROCESS AT THE MRF:

Collection & Delivery **1**

Materials arrive at the facility’s loading area after being collected from curbside bins and designated drop-off locations.

Receiving & Pre-Sorting **2**

Preliminary sorting involves removing large contaminants and non-recyclable items.

Sorting **3**

Materials run through machinery and/or are sorted manually by stream. Various technologies aid in the process.

Transportation to End Users **6**

Once materials are baled, they are transported to specialized recycling facilities or end markets.

Quality Control **5**

From initial intake to finished bales, inspections ensure contaminants and non-recyclables are removed.

Baling & Compaction **4**

Materials are compacted into bales or other forms for easier handling and transportation.