



## MATERIALS RECOVERY FACILITY (MRF)

Where the magic of recycling takes place!

### THE RECYCLING PROCESS

\*The screening process uses friction, bounce and spacing (FBS). Friction pushes the material up the incline while bouncing separates the formed or rigid material (e.g. plastic bottles) so it falls back down the screen. Spacing between the separators controls the size of the material that falls through the screen onto the next conveyor.

#### 1. Collection & Receiving

Yellow-recycling bins across Townsville are collected from your kerbside, transported and unloaded into the receiving area at the Materials Recovery Facility (MRF).

#### 2. Infeed Hopper & First Conveyor

A front end loader lifts the material into the infeed hopper that deposits it onto a conveyor. Employees manually sort and remove any gross contaminants or hazardous material.

#### 3. OCC Screen (Old Commercial Cardboard)

The FBS process sorts the cardboard from the remainder of material using a series of metal disc separators.

#### 4. Glass Fine Screen

The glass fine screen breaks glass into smaller pieces that fall through the spacing onto a conveyor below, while tapered slots in the screen remove fibre and larger non-glass items out of the glass stream.

#### 5. ONP Screen (Old Newspaper Print) & Manual Sorting

The FBS process sorts the Old Newspaper Print from the remainder of material using a series of rubber separators with different sized fingers. Employees again manually sort and remove any gross contaminants.

#### 6. Ballistics Screen

The FBS process sorts material using a series of metal slats. High volume fans allow smaller flexible materials such as paper to be blown forward off the conveyor while the more rigid materials fall back onto a conveyor.

#### 7. Magnetic Attraction

Strong rotating magnets attract and remove any steel material.

#### 8. Second Glass Screen

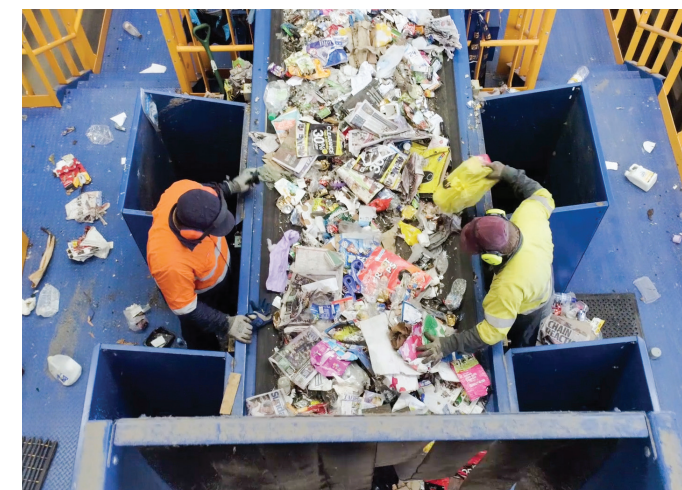
Material continues over another glass screen falling through onto a conveyor which leads to the glass imploder.

#### 9. Magnetic Repulsion

Aluminium cans are repelled off the conveyor using a high speed electromagnetic field known as an eddy current.

#### 10. Optical Sorting

High-tech computers scan the material as it travels along the conveyor and a blast of air separates the mixed plastics into the six individual types (PET, HDPE, PVC, LDPE, PP and OTHER).



#### 11. Glass Imploder

A high speed rotor implodes the glass leaving it with smooth edges.

#### 12. Gas Drier

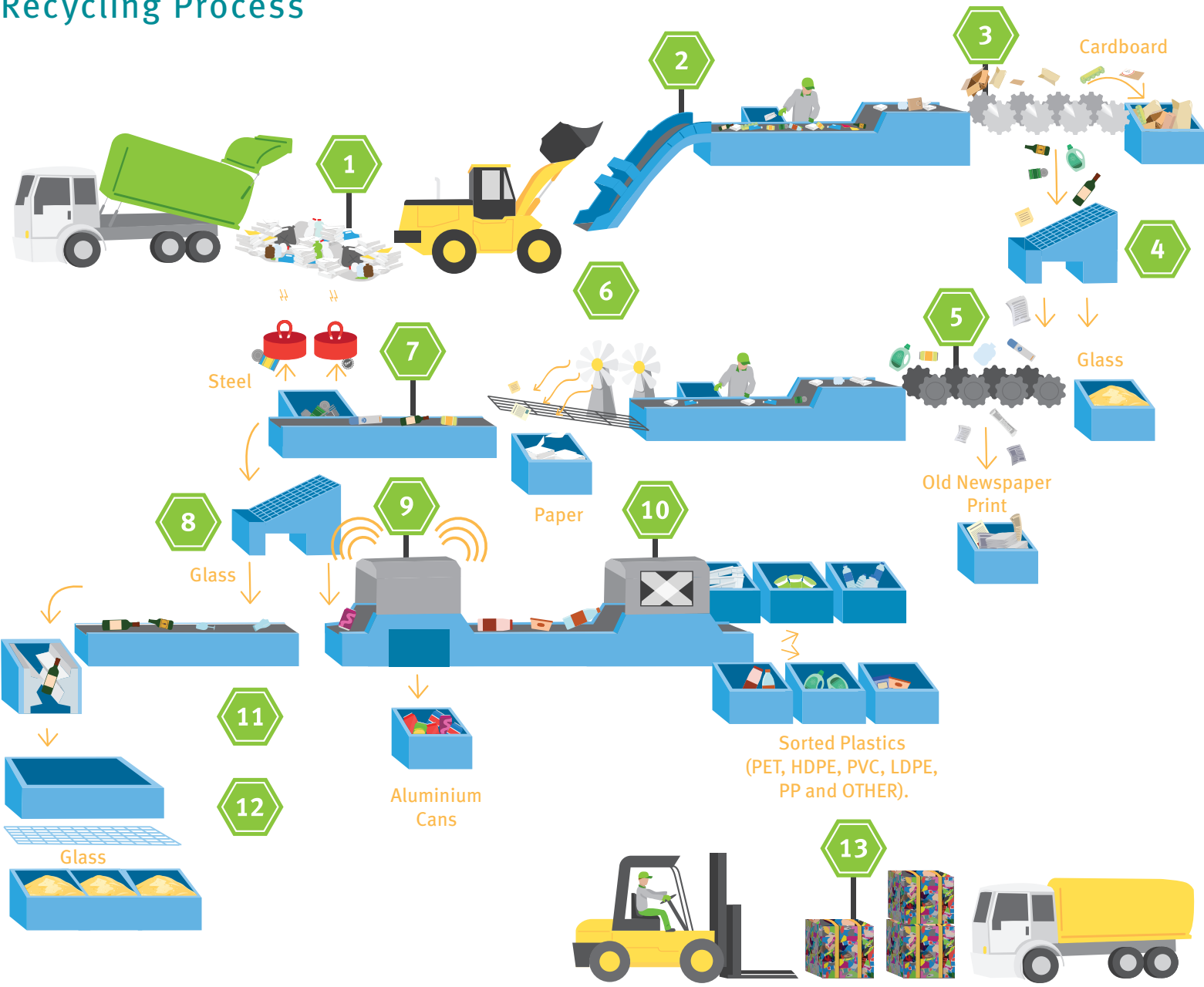
The glass is heated to remove any remaining sugars and labels before going through a flat rotary mesh screen that separates the glass into three different sizes.

#### 13. Baling

Each product is baled individually before being moved by forklifts to designated storage areas. Bales are then dispatched to other recycling facilities around Australia and the world for manufacturing into new items or raw materials.

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## Recycling Process



### DID YOU KNOW?

Townsville has more than 155, 000 waste and recycling bins in service!  
15,000 tonnes of material is collected annually from the region's kerbside.

Each month, Townsville's MRF recycles:

700 Tonnes  
**PAPER & CARDBOARD**

400 Tonnes  
**GLASS**

50 Tonnes  
**MIXED PLASTICS**

11 Tonnes  
**STEEL**

10 Tonnes  
**ALUMINIUM**