The Materials Recovery Facility (or MRF pronounced murf) is the first destination for all recyclables collected through the kerbside collection system.

After collection from the kerbside, co-mingled recyclable materials are transported to the MRF. This is where the recyclable materials are sorted into material types and baled for sale.

A number of mechanical and manual sorting processes are applied to the co-mingled recyclable materials in order to remove all waste materials and sort the recyclables into individual material types or categories.

The sorting process consists of the following basic steps:

**Step 1 - Transportation of recyclable products**

The co-mingled recyclable materials are transported to the MRF via recycling collection trucks. Upon arrival at the MRF, the recyclables are emptied into the receival bay.

The recyclable materials then travel from the receival bay pit onto a conveyor and pass through a machine called the metering drum or paddle. The paddle turns and scapes the top of the material pile as it moves up the conveyor belt. This helps to regulate the amount of material which is fed into the pre-sort stage.

**Step 2 - Pre-Sort**

In the pre-sort stage cardboard and general waste items, plastic bags and other contamination, are manually removed. At this stage the MRF workers will also remove large plastic (drums, washing baskets, toys etc.) and steel items. The remaining materials continue on the conveyor.

**Step 3 - Star Screen Sorting**

Star Screens are designed to further separate light materials from heavier material types. A shaft fitted with a series of rotating star shaped discs works to propel the light materials (paper and cardboard) forward whilst the heavy materials (plastic, steel, glass and aluminium) travel backwards. The separated paper and cardboard products then undergo a final manual clean up, where any remaining contamination is removed.

Once the majority of paper has been removed, a secondary set of star screens works to separate glass items from the remaining plastic, steel and aluminium products. Being heavier, the glass falls through the final set of star screens onto a glass conveyor belt and travels into a storage bunker. All glass is then transported to a beneficiation plant for further sorting.

**Step 4 - Removal of Steel**

The remaining materials pass under a series of rotating overhead magnets that remove the ferrous metals (those that contain iron). The powerful rotating magnets lift the steel items from the conveyor belt and drops them into a storage cage below.

**Step 5 - Removal of aluminium**

Aluminium is separated using an electromagnetic field known as an eddy current. The eddy current repels the aluminium and the cans fall into a storage cage below.
Step 6 - Optical Sorting

Optical sorting technologies are used to separate plastics types 1 and 2 (PET and HDPE respectively) from the remaining plastics categories (3-7). The process involves infrared sensors and air jets, which expel the plastics from the conveyor into storage bunkers below.

Step 7 - Manual Sorting

All remaining plastics (types 3-7) are manually separated from any remaining waste materials and sent down to storage bunkers below.

Materials such as plastic, steel, aluminium and paper are compressed into bales at the MRF. The bales make the product easy to transport and weigh, and thereby reduce transportation costs.

All the products are transported to different reprocessing facilities for further sorting and screening. Each product then undergoes a different process to be turned back into products and packaging ready for us to purchase. Buying recycled products helps close the recycling loop.