NATIONAL RECYCLING WEEK
PLANET ARK

National Recycling Week 2019

The Business of Recycling in Tasmania

cradle coast waste services
Operated by Dulverton Waste Management

NORTHERN TASMANIAN Waste Management

WASTE STRATEGY SOUTH

Rethink Waste TASMANIA

Q Why do we recycle materials?

A

There are environmental, social and economic reasons for recycling. Recycling re-uses materials and reduces the need to extract more of the Earth's finite resources such as oil, metals and sand.

Recycling also extends the life of materials and reduces the volume of waste going to landfill. Recyclable materials are a commodity and have a financial value too – they are bought and sold in a global market for use by manufacturers across the world.

Q Who is involved in recycling in Tasmania?

A

There are both government and private recycling services available in Tasmania. Local government provides kerbside recycling collection services for household recycling, plus operate Waste Transfer Stations and Resource Recovery Centres where household recycling plus other recyclable materials can be delivered (e.g. used oil, paint, electronic waste, light globes and fluorescent tubes etc). Recycling collected via local government services are transported to private businesses for sorting and processing.

Kerbside recycling is sent to a Material Recovery Facility (MRF, pronounced 'murf'). There are several MRFs in Tasmania, operated by private businesses including Veolia, Cleanaway and JJ Richards. Local councils in Tasmania pay these businesses to provide recycling sorting and processing services and, in some cases, recycling collection and transport services too. The majority of a MRF's income comes from selling the sorted recyclable material to local, national and international buyers.

There are many other recycling services in Tasmania including scrap metal merchants, industrial soft plastics recyclers, TerraCycle collections and a range of recycling via retailers under the Product Stewardship Scheme (e.g. mobile phones, printer cartridges, tyres etc).

Q Do local councils make money from recycling?

A No. The kerbside collection, transport and processing of recycling is a cost borne by councils and their communities. Rates and service fees charged to residents help to cover some of the cost of recycling and other waste services provided by councils. Recycling is better for the environment than landfilling. Separating recycling for re-use and keeping it out of landfill also helps reduce the operating costs of councils.

Q Where does my recycling go once it is collected?

A Kerbside recycling is delivered to a Material Recovery Facility (MRF). This is a sorting centre which uses people and machines to separate the different recyclable materials into bundles to be baled up and sold to recycling processors or brokers.

The recycling processors buy material from the MRF or from a broker and turn it into granules (plastic) or pulp (paper) or ingots (steel and aluminium) or ground sand (glass) ready to sell to manufacturers who are making new products. Recycling processors can choose to buy materials from any number of MRFs around Australia. It is a competitive market and MRFs that deliver quality material with low levels of contamination are preferred. Keeping contamination out of your kerbside recycling bin helps your local MRF to recover quality material that is more likely to be recycled by a processor and used by a manufacturer.

In North West Tasmania, the MRF is operated by Veolia and is based in Spreyton. In North Tasmania, two MRFs based in Launceston are operated by JJ Richards and Veolia. In South Tasmania, the MRF is operated by Cleanaway (formally SKM) and is based in Hobart.

Q A What influences the value of recyclable materials?

When mixed recyclables are brought to a MRF, they are separated and bundled up ready to be sold as commodities in the global marketplace. The value of recyclable materials is influenced by the same global market forces as other commodities used in manufacturing:

- If the amount of recycled materials available is bigger than the demand or need for those materials, then the price drops. Shoppers can help increase the demand by prioritising products made from recycled materials and asking manufacturers to use more recycled materials in the production of new goods.
- If the cost of virgin steel and aluminium drops, then the value of recycled steel and aluminium drops too as manufacturers prefer the quality of new materials over recycled ones.
- If the price of crude oil drops, then the value of recycled plastics drops too because the cost of producing new plastics also drops.
- If governments change policies either in Australia or overseas, as happened when China changed its recycling import laws to prohibit contaminated recycling, this can impact the level of supply of recycling and therefore also the price.
- In Australia, commodity prices for imported materials, including recyclable materials, can be cheaper than those produced locally so manufacturers may prefer to use imported new or recycled materials over those that are recycled here.

Q Where does Tasmania's recycling get sent for processing after it has been sorted at the MRF?

A

Different Material Recovery Facilities have different supply contracts and buyers of their recyclable materials. As with other commodities the prices, manufacturing demand and buying markets for recycled materials change from month to month. As examples, the average price paid for a tonne of steel cans changed from $140/tonne in March 2019 to $128/tonne in September and the price of corrugated cardboard changed from $240/tonne to $185/tonne over the same time period.

Some materials, such as mixed glass, can sometimes have a negative price meaning that recyclers would have to pay others to take the material rather than be able to sell it. In times like that, the MRF may temporarily stockpile the material until prices improve or find local uses for it such as a substitute for sand in road bases and landfill cover. The Material Recovery Facilities continuously look for the best sale price and markets for their recyclable materials.

As a guide, here were the destinations for material from one of the Tasmanian MRFs in October 2019:

- Paper and Newspaper: **Australia**
- Cardboard: **Australia**
- Glass: **Tasmania**
- Steel and Aluminium: **Australia and Exported**
- HDPE and PP plastic: **Australia**
- PET plastic: **Australia and Exported**

Q Why can't all of my recycling be processed in Tasmania or in Australia?

A

Most of Tasmania's and Australia's recycling gets processed in Australia. The Australian Government's 2018 National Waste Report showed that of the 37 million tonnes of waste recycled, 33 million tonnes were undertaken in Australia (89%), and four million tonnes were exported for recycling.

Currently there are a lack of processing facilities and a lack of demand for recycled input material to prevent all material from being recycled in Australia. Asia is a major source of the world's manufacturing output and has a higher level of demand for recycled input materials.

In 2016 -17 Australia exported recyclable material to over 100 countries including major manufacturing nations Vietnam, India, Malaysia, Indonesia and China. If Australian-based manufacturers were to use more recycled input material, there would be more local demand and it would be financially viable for more recycling processing businesses to operate in Australia.

Markets are constantly changing however, and in August this year the Australian Government committed $20 million to innovative projects designed to grow Australia's domestic recycling industry. We can expect to see less exporting of recycling materials over time and more processing within Australia.

Q What is contamination in recycling and what causes it?

A

Contamination is the name given to anything than cannot be recycled or anything that reduces the quality of recyclable materials. One example is paper that gets wet from the contents of a bottle in the recycling bin.

Audits of kerbside recycling bins in Tasmania show that the biggest sources of contamination are:

- soft plastics (including silver-lined food bags)
- recycling packed inside boxes or bags, and
- various types of household garbage.

Australia's use of one kerbside recycling bin that combines different types of recyclable items is convenient, but also encourages contamination within the bin by mixing paper with plastic with steel and other materials. Better sorting and separation of materials before they are sent to a MRF is one way of reducing recycling contamination.

Q How much recycling goes to landfill in Tasmania?

A

Councils and MRFs aim to recover as much recyclable material as possible from kerbside recycling bins.

Audits of kerbside recycling bins in Tasmania show that on average, around 11% of a bin's contents cannot be recycled via the Material Recovery Facility (the range is typically from 5% - 15% depending on the suburb/town). This may be because the item in the bin is not recyclable (eg. is garbage), is contaminated (e.g a bottle full of liquid) or is recyclable but not via the kerbside bin service (e.g. soft plastics or e-waste). Items that the MRF cannot recycle are sent to landfill so, as a guide, around 11% of the contents of kerbside recycling bins are sent to landfill.

When looking at the resource recovery rate of all Australian states and territories, Tasmania recovers around 50% of reusable waste which is on par with Western Australia and Queensland and suggests significant room for improvement.
This shows that there are many materials which could be recycled that are being disposed of as garbage instead. South Australia recovers 80% of reusable materials, ACT 75%, Victoria 69% and New South Wales 65%. The Northern Territory has a resource recovery rate of around 28%.

Q Why does recycling sometimes get stockpiled?

A

Material Recovery Facilities (MRF) in Tasmania may stockpile material in order to collect a sufficient quantity to economically transport it for processing. Stockpiles may also be held if the commodity price for a particular item drops and the MRF is waiting for the price to improve to cover sorting or processing costs.

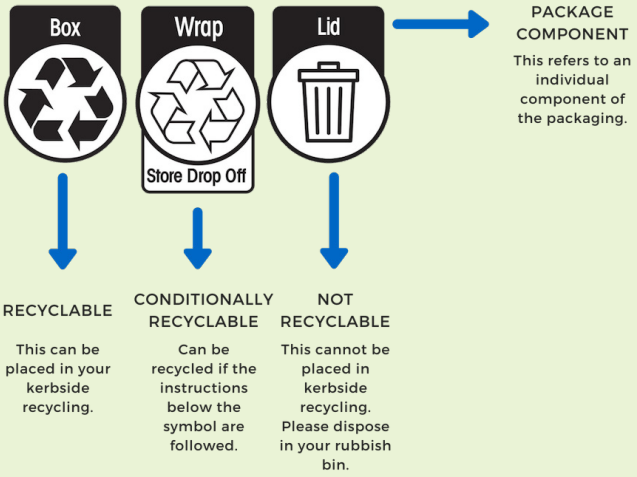
The Environmental Protection Authority (EPA) Tasmania regulates the MRFs and monitors the stockpiling of waste to minimise any risks to the community.

Q Why can't all items that have a recycling symbol be recycled in my kerbside bin?

A

The general recycling symbol (arrow triangle) shows that the item contains material that can be recycled, such as paper and plastic. This is a general indication, but does not reflect the local differences between individual Material Recovery Facilities and what they are capable of processing.

Planet Ark has developed the Australasian Recycling Label to better reflect what material can and can't be recycled within Australia. This label takes into consideration what material can be accepted in council-provided kerbside recycling bins across Australia. If at least 80% of kerbside recycling bin services can accept a given material, it qualifies for the recycling symbol on packaging. So although some council bin services will still be unsuitable for that material, this new type of label is an improvement on the existing, general recycling symbol being used.



Q Why don't composite materials (items made from a combination of recyclable materials such as foil, paper and plastic) get recycled in my kerbside recycling bin?

A

Kerbside recycling goes to the Material Recovery Facility (MRF). The MRF sorts recycling so that the same type of materials are bundled together and can be sold to processors, brokers or manufacturers.

Buyers of recycling are most interested in pure materials such as 100% aluminium, paper or PET plastic. It is not cost effective for MRFs to take the time and effort to separate combinations of materials.

As an example, milk cartons are made of cardboard lined with thin plastic so it takes more resources to separate them. The resulting cardboard quality from milk and juice cartons is also very low compared to 'pure' recycled cardboard and so there is not as much demand from manufacturers to buy this low quality material.

The money made from separating and selling composite materials does not cover the cost of separation and so these items are currently sent to landfill. To improve recycling quality, choose products with packaging made from a single material or easily separable materials (e.g. steel lid easily removed from a glass jar) where possible.

Q What's the meaning of the triangle with the number in it found on plastics? Doesn't that mean it can be recycled?

A

The recycling triangle with a number inside is a Plastics Identification Code (PIC) and it lets you know the type of plastic used to make a product.

Most items that are marked with a PIC can technically be recycled, just not always in your kerbside recycling bin. In Tasmania, items marked with a PIC of 1, 2 or 5 can more commonly be recycled in your kerbside bin.

1 PET = **PET** (Polyethylene terephthalate)

2 HDPE = **HDPE** (High-density polyethylene)

3 PVC = **PVC** (Polyvinyl chloride or plasticised polyvinyl chloride)

4 LDPE = **LDPE** (Low density polyethylene)

5 PP = **PP** (Polypropylene)

6 PS = **PS** (Polystyrene)

7 O = **Other** – all other plastics, including acrylic and nylon.

Q Why can't soft plastics be recycled in my kerbside recycling bin?

A

The equipment and processes at Tasmania's Material Recovery Facilities are unable to tell the difference between soft plastic (such as plastic bags and food wrappers) and paper. Both materials are thin and light weight and so they all end up in the paper sorting pile.

Soft plastic can also get stuck in the sorting equipment and wrap around moving parts causing additional maintenance and equipment repair costs.

Paper contaminated with soft plastic cannot compete in the commodity market with 'pure' recycled paper; there is little or no demand from manufacturers for contaminated recycled material.