Recycling


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Recycling and the Whakapapa of Waste.

What is recycling?

Recycling is the process of recovering materials used in industry or in the home for further uses. Recycling is one of the 3 R's of solid waste management: reduce, reuse and recycle. These methods reduce the quantities of waste that need to be landfilled.

When we recycle, we reduce our demand for the resources of our fragile environment. Making products from recycled materials can reduce the amount of energy required in processing. When we use less energy we can reduce our output of harmful greenhouse gases from burning fossil fuel.

Finally, when we recycle goods, they do not enter the waste stream. We reduce unsightly pollution and ease the impact on waste disposal and fast-filling landfill sites.

The first step to recycling is sorting the different types of recyclables into categories. Recycling drop-off centres can be located at schools, supermarket car parks and community centres or at local resource recovery centres.

Unless the recyclable material is properly sorted it goes to landfil. It is more cost effective for households to pre-sort recyclable material than machines and personnel in recycling centres.

Whakapapa of Waste; what is our stuff made of, and what can we recycle?

Paper

Paper is made from wood fibres which have been pulped, pressed and dried. In New Zealand the trees grown to make paper pulp are a renewable resource. From planting to maturity these trees take about 20 years to grow.

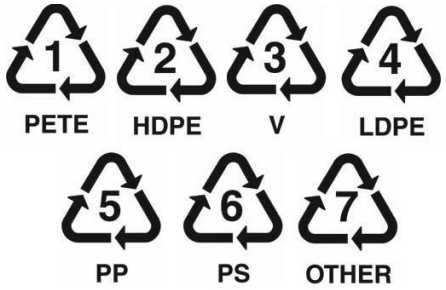
Paper can also be made by recycling suitable waste paper products. These products must be easily collected and recycled if they are similar in type, clean, and uncontaminated by wire, plastic and food. Most waste paper recycled in New Zealand is used to make paperboard. Small quantities are used in making printing and writing paper, tissues and toilet paper. Other minor products include plasterboard backing. Making paper from waste instead of virgin pulp uses up to 64% less energy, reduces air and water pollution by almost 60%, requires only half the water and saves about 17 trees for every tonne of paper recycled.

In New Zealand we can now purchase paper made with raw and recycled materials. The recycled content often contains up to 70% scrap from paper mills or misprints, mixed with post-consumer waste. Postconsumer means that the material has been used by the consumer, it does not include discards from industrial and manufacturing processes.

Plastic

Plastic was first made from plant cellulose in the 1860s as a substitute for ivory, and now comes in more than 60 synthetic versions. Petroleum is the most common raw material for making plastic. New uses and compounds are being developed constantly. All plastic can be recycled at the manufacturing stage. Plastic is down cycled, meaning it cannot be recycled for ever, and eventually ends up in landfill

To be recycled, plastics need to be retrieved from the waste stream, collected, sorted and reprocessed into another product. In 1989, the Plastics Institute of New Zealand initiated a voluntary plastics coding system. This is part of an international system to assist in identifying plastic containers for recycling.



The coding system assigns a number to each of the primary types of plastic resins, 1 (PET), 2 (HDPE), 3 (PVC), 4 (LDPE), 5 (PP), 6 (PS) and 7 (other). These are presented as the resin number surrounded by a recycling symbol. The types of

plastics that are accepted for recycling change. Check with your local council to see which plastics are currently recyclable.

Each year the average New Zealander throws away nearly 15 kg of plastic packaging.

Burning plastics in household incinerators is not recommended, as plastic releases gaseous pollutants when burned.

Most plastic is an inert material that does not breakdown in a landfill. Until large-scale plastic recycling programmes are available in New Zealand, we can reduce the amount of plastic waste we create by buying groceries in bulk, avoiding single use plastic containers, using less plastic wrap, taking cloth bags to the supermarket and by encouraging manufacturers to produce more reusable plastic packaging. Reusing plastic packaging e.g. bread bags, supermarket bags and plastic bottles, can also reduce the amount of plastic that is discarded.

Glass

Each year, we throw away thousands of tonnes of glass. Ironically, glass is in demand with manufacturers as it is both reusable and 100% recyclable. New Zealand's recovery rate of used glass is one of the highest among developed countries. 70% of glass products sold in NZ are made from recycled glass.

Household bottles and jars are made from a melted mixture of silica (sand), soda ash and limestone. Old glass or 'cullet' is a very valuable raw material in the production of new glass. It helps the batch melt quickly and reduces the pressure of extracting silica sand from New Zealand beaches and reduces by 40% the amount of imported soda ash required for glass production. As well as saving space at landfills, glass recycling benefits the environment by reducing sand and limestone mining and reduces litter and pollution from soda ash production.

Window glass, mirror glass, crystal glass and lightbulbs are not recyclable due to their high lead content. There are four types of manufacturing glass: containers, flat glass, pressed glass and blown glass. Glass colours are clear or flint, green and brown.

Metal

Nine per cent of everything we throw away is metal. Metal recycling makes economic and environmental sense as pure metals and many alloys need far less energy to recycle than is needed to mine, extract and smelt them. The two most common metals found in household waste are aluminium and steel.

Aluminium is one of the most abundant metals in nature. Made from bauxite, aluminium accounts for 8% of the Earth's crust. 500 kgs of waste are produced from extracting one tonne of bauxite. Large amounts of energy are needed to produce primary aluminium from bauxite. Once aluminium is in metal form, it can be re-melted over and over again with very little metal loss in the process. Recycling aluminium cans uses 5% of the energy needed to produce new aluminium from Bauxite. Aluminium is used extensively in beverage containers, roofing, window and door frames, boats, aeroplanes, kitchen equipment and electrical devices. Of all packaging, aluminium cans are probably the simplest and most efficient to recycle.

Steel is extracted from our black 'iron' sand beaches. Steel cans, commonly known as tin cans, are made of steel and coated with a thin layer of tin. The tin layer stops the steel can from corroding. Steel has been used for many years in New Zealand both as a food and beverage container. Once washed thoroughly steel cans can be recycled at some resource recovery centres and scrap metal dealers. It uses much less energy to recycle steel than extract 'iron' sands. Recycling one car saves enough energy to run a household for a year.

Scrap metal recycling is another economically viable activity. Steel and iron are reclaimed from cars, railway lines, appliances and building materials. Brass is recovered from household fittings and ammunition cases. Copper can be taken from electrical wiring and radiators. Car batteries are recycled for their lead.