



## Aluminium

### Did you know?

- Australians have recycled one and a half billion aluminium cans.
- Producing 20 cans from recycled materials uses the same energy as making one can from raw materials.
- By recycling one aluminium can you are saving enough energy to run your television for three hours.
- Since 1980 the weight of aluminium cans has been reduced by over 30%.
- Recycling a kilogram of aluminium saves over 20kg of greenhouse gas.
- Making a tonne of aluminium cans from recycled cans saves 5 tonnes of bauxite (Comalco, 1992).

### About Aluminium

Aluminium cans are very common today, but have only been used in Australia for about 20 years. Aluminium cans and aluminium foil are made from the best quality aluminium; only high quality aluminium can be pressed and rolled so thinly and still stay strong. Cans and foil are excellent for recycling because the recycling cost is much less than the manufacture from raw materials. Aluminium is a very valuable material in the recycling stream. In Western Australia we use approximately 6000 tonnes of aluminium cans per year. About 60 per cent of these cans are currently recycled.

Aluminium is made from the ore bauxite, which consists mainly of aluminium oxides, iron oxides and clay. The aluminium oxides are removed in the form of Alumina and smelted in large steel furnaces, removing oxygen and leaving molten, pure aluminium.

Pure aluminium is poured to make ingots and the ingots are heated to 500 Degrees Celsius. Once hot, they can be rolled between large rollers to produced thin sheets suitable for making cans and foil.





## Being Waste Wise About Aluminium

Aluminium is made from the mineral Bauxite, which is mined in Western Australia and Queensland. To conserve mineral resources, reduce energy consumption from mining and transportation and reduce waste to landfill, it is important to be waste wise with aluminium.

There are 3 steps to follow:

### Reduce

Aluminium cans are made for convenience. There are occasions where it is better to buy drinks in large bottles rather than cans. For example, if catering for a party or drinking at home, using 2 litre bottles of drink with glasses will reduce the amount of waste produced. When drinking in a restaurant or bar, it may be preferable to buy drinks in jugs or glasses rather than cans.

Use foil only when necessary, for example don't use foil to cover potatoes when baking, instead just prick them first.

### Reuse

Most aluminium packaging is designed as single use containers to be recycled. Aluminium foil can be reused to cover food or protect grills. Once the foil becomes contaminated with foods or oils it should be disposed of.

## Recycle

Aluminium cans can be returned in kerbside recycling collections, at 'cash for cans' centres, at some schools and in recycling bins in public places.

Aluminium drink cans and clean aluminium cooking foil can both be recycled.

Rinse and crush the cans. If you collect cans from public places, check that no sharp objects, such as syringes, have been placed inside the can before you crush it. Foreign objects in the can, such as stones, can interfere with the recycling process.

Check with your local council for details about aluminium can recycling in your local area.



*Reduce, Reuse, Recycle*



## The Recycling Process

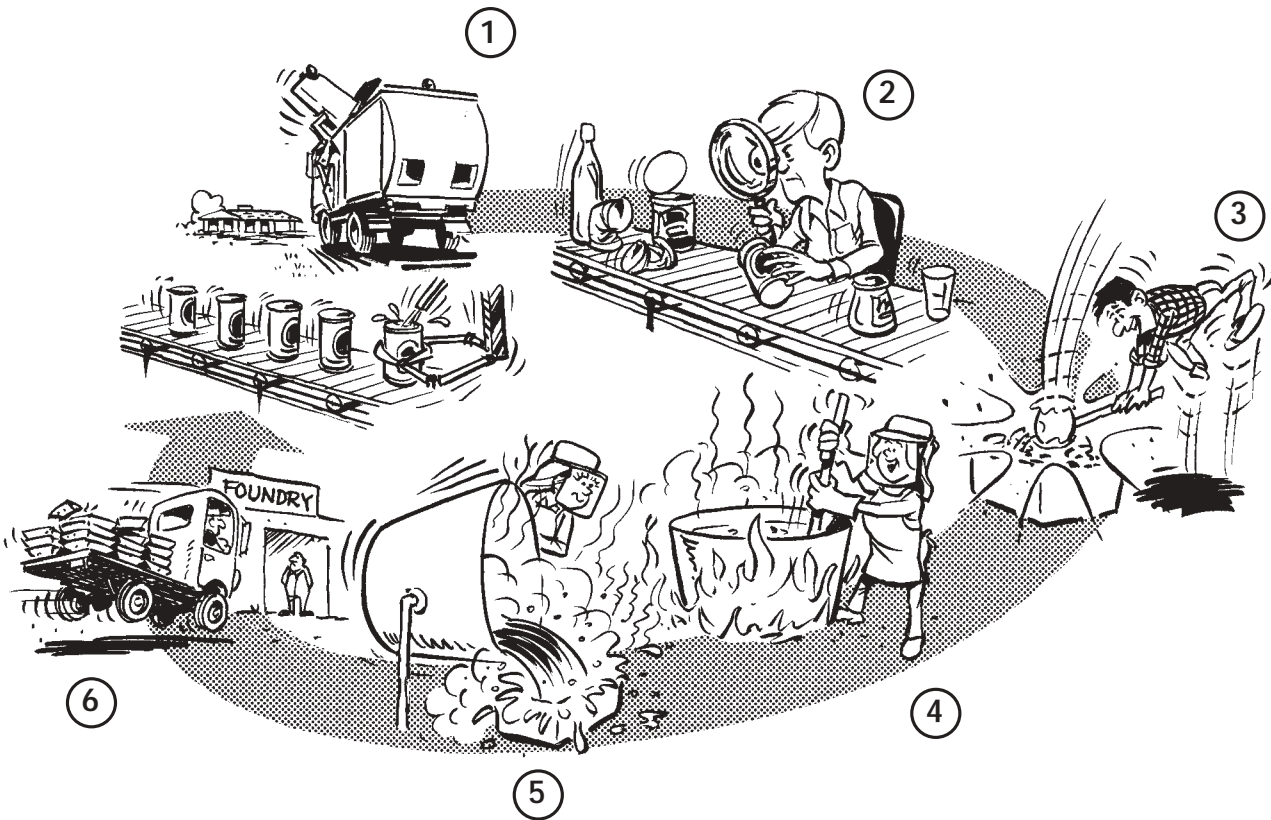
1. Aluminium is collected for recycling and loaded onto the conveyor belt.
2. It is screened for steel cans and then crushed.
3. The cans are weighed and squashed together and baled into blocks. These blocks are taken to the furnace.
4. The blocks are tipped into a rotary furnace where they are melted.
5. The molten aluminium is poured into a mould to make ingots.
6. The ingots are taken to where they can be formed into new aluminium items.

## Resources:

- Alcoa and Comalco brochures  
Beverage Industry Environment Council.1998.  
Recycling audit and garbage bin analysis.

## Useful websites:

- [www.comalco.com.au](http://www.comalco.com.au)  
[www.alcoa.com.au](http://www.alcoa.com.au)



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## The Waste Wise WA Program

There are a number of programs working towards educating the community to minimise waste.

These projects are funded by the Waste Management and Recycling Fund from money collected as a Waste Levy whenever garbage is delivered to landfill.



### Waste Wise WA display trailer

The trailer is a mobile interactive display about waste and recycling available for schools, community groups, expos and shows. A Waste Education Officer will staff the display to answer questions and provide Fact Sheets.

### Waste Wise WA Website: [www.wastewise.wa.gov.au](http://www.wastewise.wa.gov.au)

This website contains comprehensive information about issues relating to waste minimisation in Western Australia. It includes information on the 3Rs; organic waste; landfill; the school program; regional waste and workplace waste reduction. The complete series of Fact Sheets are also available to download.

### Waste Wise WA Youth Grants

The Youth Grants provide opportunities for youth community groups to undertake waste minimisation projects in their local area. Grants of up to \$5,000 are available, with applications assessed monthly.

### Waste Wise Schools Program

This program empowers schools to minimise their waste outputs and incorporate waste issues into the curriculum. The program provides teacher workshops, the Waste Wise Schools Kit, a network of Support Schools, Accreditation and Awards programs and ongoing support.

### Earthcarers

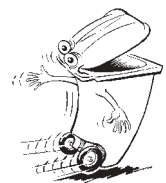
The Earthcarers project is directed at a Regional Council level. It trains, guides and supports community volunteers to foster domestic waste minimisation behaviours. The program involves all levels of the community working together.

### Contact

For further information about any of these projects, contact the Waste Wise WA officers at the Department of Environmental Protection.

Phone: 08 9222 7000 or 08 9278 0300.

Email: [wastewise@environ.wa.gov.au](mailto:wastewise@environ.wa.gov.au)



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