

ZERO WASTE

live the vision

fact sheet

Glass

Did you know?

- Glass can be recycled again and again indefinitely.
- Making glass from recycled material saves up to 74% of the energy necessary to make glass from sand. (Grant T et al 1999)
- 66.5% of households in Western Australia recycle glass (ABS, 2000).
- Western Australians consume approximately 47 000 tonnes of glass per year, almost 20 000 of this is recycled.
- In 2002, Australian consumption of glass was 850,000 tonnes of which 38% was recycled. In 1998 the recycling rate was 44%. The recycling rate in most European countries is 60% (zero waste SA).
- Using recycled materials for glass production saves energy and resources; each tonne of cullet saves 1.1 tonnes of raw materials.
- Recycling glass only creates half the greenhouse gas of making new glass - reuse saves even more! (Greenhouse and ESD Unit, 1993).

About glass

Glass is one of the oldest and useful materials made by humans, it was discovered more than 5,000 years ago by the Phoenicians. For 2,000 years, hand-blowing glass was the principal way of making glass bottles. In the last hundred years mechanised glass blowing techniques have revolutionised the production of glass containers, allowing bottles to be produced quickly and cheaply.



Glass is made from sand (to provide silica), soda ash (to reduce melting point) and limestone (to increase hardness). A mixture of these ingredients, called a batch, is fed continuously into furnaces where it melts at approximately 1,500°C. The molten glass is then conveyed to moulding machines where globules of glass are dropped into moulds. Air is blown into the hot globules to form bottles or jars, which are then slowly cooled and ready for filling. Glass containers are widely used to package a huge array of foods and drinks.

To conserve resources, manufacturers today are making glass bottles lighter than they used to. For example, in 1986 a 'Stubby' weighed 260 grams, but now only weighs 180 grams (ACI Glass Packaging).



Being waste wise with glass

Glass is made from three raw materials: sand, soda ash and limestone. To conserve these materials, save energy and reduce waste to landfill, it is important to be waste wise with glass. There are 3 steps to follow:

Reduce

Reduce waste by selecting products with the least amount of packaging material. You can do this by:

- Selecting the most appropriate size container for your use. This can reduce the amount of glass you use. For example a 1kg tomato sauce bottle contains less glass than two 500g bottles of tomato sauce.
- When you have the choice of drinking bottled drinks or 'on tap' drinks, choose 'on tap' in reusable glasses.

Reuse

Glass storage containers can be reused to:

- Store household kitchen products such as jams, pickles and sugar
- Store other drinks such as cold water or cordial
- Store nuts, bolts and nails in the shed
- Donate to community groups, craft groups and some schools



Recycle

Recycled glass is used to make new glass containers, road base and sandblasting. Glass can be returned for recycling in most kerbside collections or to bottle bins in public places. Types of glass that can be recycled include all clear, green and brown glass bottles -soft drink, wine, beer, all glass jars, spreads and sauce bottles. Check with your local council for details about glass recycling in your area.



Remember! rinse jars and bottles clean so there is no food or drink residue remaining, remove lids from jars and tops from bottles. Leaving the label on is ok.

The types of glass that can be recycled vary between local councils. Usually, these cannot go into recycling bins: broken glass, opaque (not see-through) glass, heat-resistant glass (eg. Pyrex) and light globes. It's important to check with your local council to find out what can and can't go in your recycling bin.

The recycling process

1. Glass collected from kerbside collections is sorted according to colour at the recycling depot – usually only clear, amber (brown) and green glass can be recycled.
2. The glass is taken to a factory called a “beneficiation plant” – where they make sure that all the contaminants are removed.
3. The glass is finely crushed. The crushed glass is called cullet.
4. Some cullet (the amount depends on the quality) and some raw materials used to make new glass (sand, soda ash, limestone) are heated together in a furnace where it is melted into new glass.
5. The molten glass is moulded into new bottles and jars.

Resources:

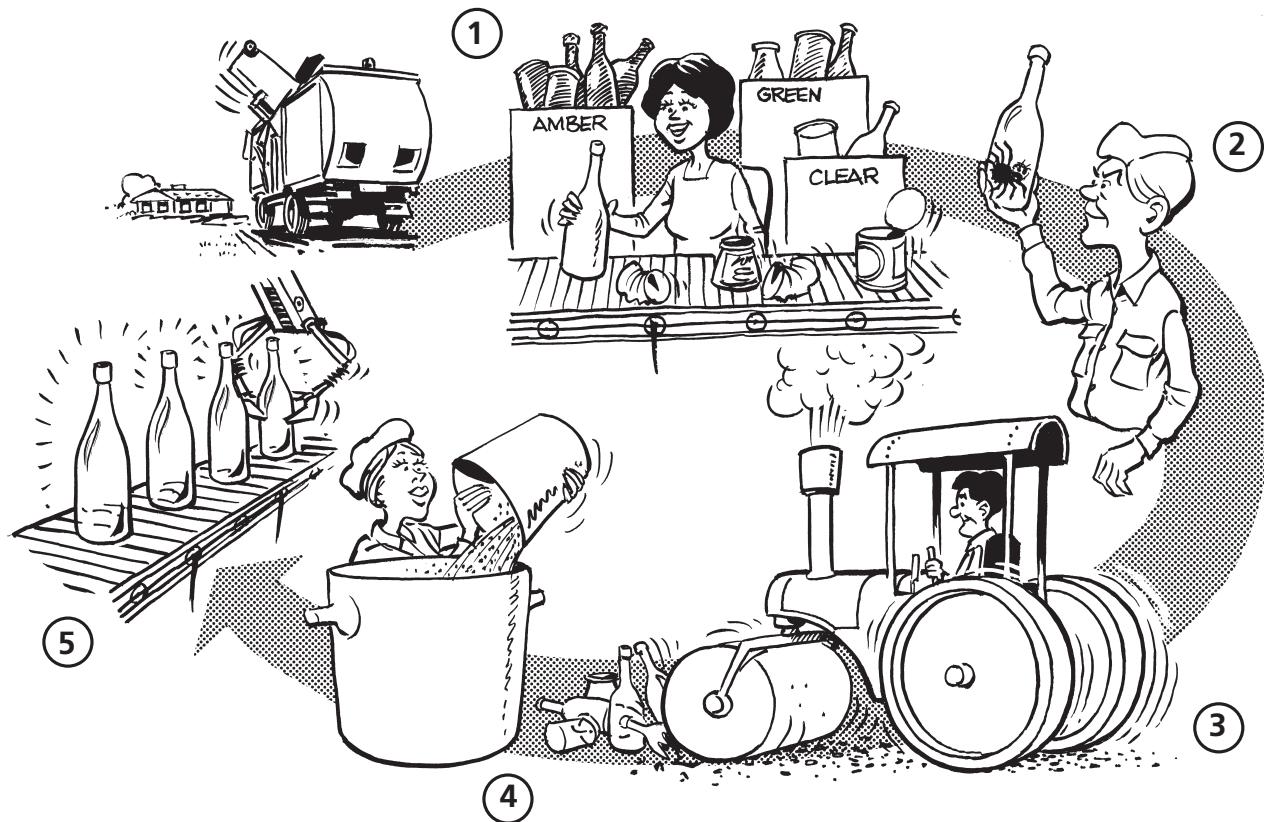
ACI Glass Packaging. 1997. Brochure

Useful websites:

www.biec.com.au

www.aci.com.au

www.visyrecycling.com.au/s04_easy/s0435_frame.asp





The Waste Wise Schools Program

The following program elements are funded by the Waste Management and Recycling Fund from money collected as a Waste Levy when waste is delivered to landfill. The Waste Wise Schools Program is helping to work towards Zero Waste in WA.



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.

Waste Wise Schools Mobile Display

The Waste Wise Schools interactive Mobile Display about waste and recycling is available for *Participating* Waste Wise Schools, community groups, expos and shows. A Waste Education Coordinator will staff the display to conduct presentations, school waste audits and set up composting and worm farming systems upon request.

Waste Wise Schools Grants

These grants provide opportunities for *Participating* Waste Wise Schools and their related communities to undertake waste minimisation projects in their school. Grants are available, with applications assessed monthly.

Waste Wise Schools Website: www.wastewise.wa.gov.au

This website is your on-line link to the Waste Wise Schools Program. You will also find information on how to 'Shop Smart', recycle organic waste at home and recycle a variety of different waste items through the RecycleIT directory. The complete series of fact sheets are also available to download.

For further information on issues relating to waste minimisation in WA, visit www.zerowastewa.com.au

Contact

For further information, contact the Waste Wise Schools program at the

Department of Environment and Conservation.

Phone: (08) 6467 5133 or (08) 6467 5141.

Email: wastewise@dec.wa.gov.au

