

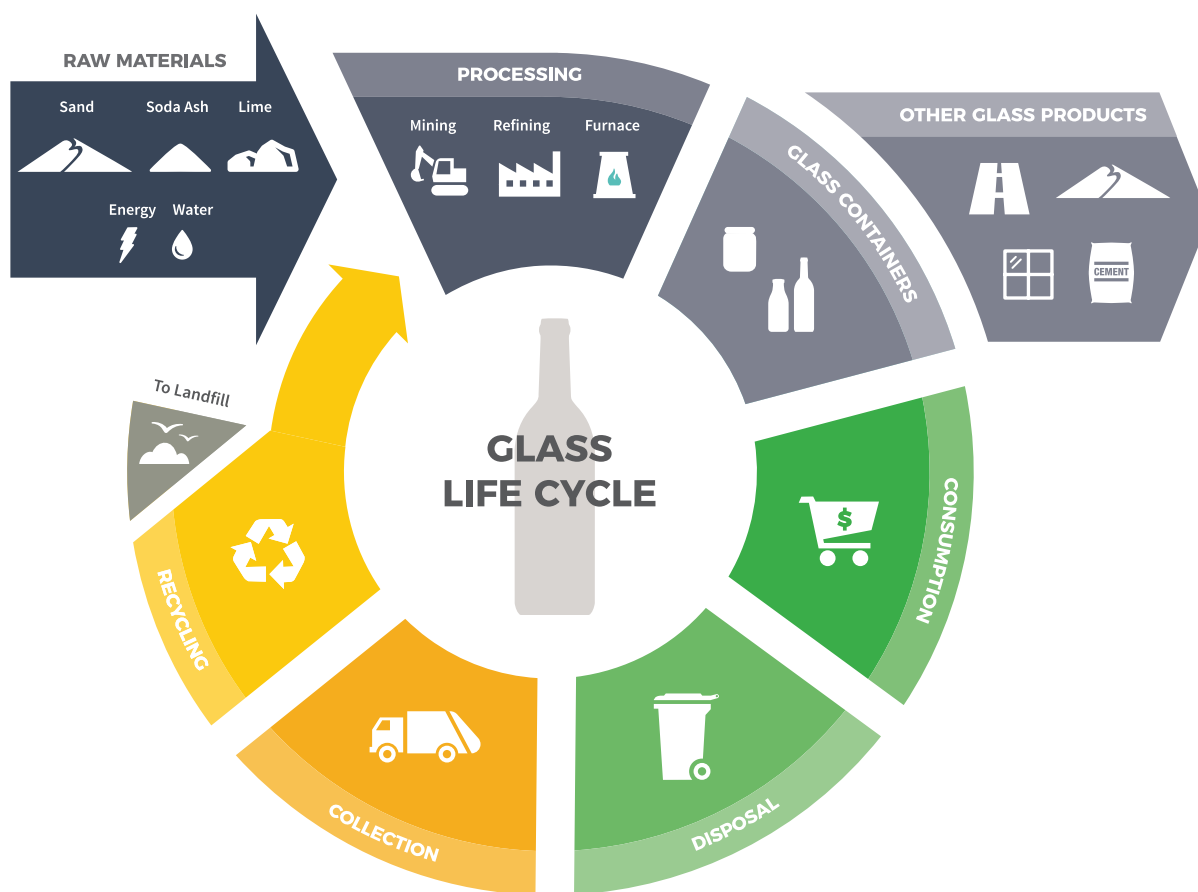
Glass recycling



Waste Sorted

Introduction

In its original form, glass comes from three main virgin materials: silica in the form of sand, soda ash and limestone. Glass was discovered more than 5,000 years ago and is a widely used packaging item.¹ It is inert and does not degrade readily. Recycling glass is the processing of waste glass into usable products.



How is glass made?

All the virgin or recycled materials are melted in a furnace at a heat of about 1,500 degrees Celsius. The ingredients are melted into a liquid or molten form that is then dropped into a mould. Air blowing into the mould creates the shape of a bottle or jar. Once cooled, the bottles and jars are ready to be filled.

The glass recycling process produces a crushed glass called 'cullet'. Cullet is often mixed with virgin glass materials to produce new end products. Making new glass from recycled cullet saves energy because recycled glass melts at a lower temperature than virgin raw material, using less energy in the manufacturing process.

At a Materials Recovery Facility glass can be recycled to produce fine grade sand to be utilised in building construction products, concretes, road bases and for other industrial applications, replacing other virgin resources.



Glass recycling



The problem

Glass takes up to one million years to break down in a landfill. It is heavy to transport and the glass recycling process is sensitive to contamination.

There is currently minimal manufacturing of glass products such as bottles, jars and other packaging materials occurring in Australia. So, we need to find new ways to use all the glass we put in the recycling bins. In the Asia Pacific region the glass industry uses around 60% of recycled glass 'cullets' in its glass manufacturing.²

Glass and the environment

Using virgin materials for the production of glass requires extraction of significant amounts of natural resources. Although the resources needed for the production of glass are not in short supply, mining damages the land and uses natural resources such as oil or coal in the extraction process.

The solution

By making products from recycled materials instead of virgin materials, we conserve land, save landfill space and reduce energy use.

Glass can be recycled forever. Most councils in Australia have a glass recycling system at their Materials Recovery Facility so glass can be collected and processed ready for remanufacture or use in other industrial applications.

Container Deposit Scheme

The ACT established a container deposit scheme in early 2018. Consumers are able to return eligible beverage containers to designated drop-off points and receive a 10 cent refund for each container.

The container deposit scheme will help to reduce litter, recover and increase the recycling rates of used containers and help engage the community in active and positive recycling behaviours.

Tips for your kerbside bin

Avoid buying goods which use excessive packaging and **reuse** glass jars where possible.

YES

- All beverage glass: clear, green, brown (amber) bottles including wine, beer, juice, soft drink and sauce bottles
- Glass jars – such as those from jams, spreads and other sauces.

NO

- Broken glass pieces can be hazardous to the workers in our Materials Recovery Facility. Also, the following household glass products should **NOT** be placed in your recycling bin.
 - Oven proof glass or china
 - Light globes
 - Mirrors
 - Laminate window glass and windscreen glass

Visit www.act.gov.au/recycling for disposal of these items.

Did you know?

- For every tonne of glass recycled, there is a saving of approximately 225 kg of carbon dioxide.¹
- Recycling glass saves 74% of the energy it takes to make glass from raw materials.⁴
- 1.2 tonnes of raw materials are preserved for every tonne of recycled glass used.⁴
- Glass artifacts have been found dating back to 1300 B.C.⁵

References

1. Veolia Glass <https://www.veolia.com/anz/our-services/our-services/recycling-waste-services/recycling/glass>
2. Get it right on bin night <https://sustainability.ceres.org.au/resource/get-it-right-on-bin-night/>
3. Ohio Industries <http://www.o-i.com/Sustainability>
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