



An effective solution –
resource recovery from waste





Geocycle provides safe and effective solutions for industrial waste by ensuring that the resource value inherent in industrial by-product streams is beneficially re-used.

A wholly owned subsidiary of Cement Australia, Geocycle boasts more than 15 years experience. With a technical expertise that is recognised internationally, Geocycle has been able to achieve success because of its strict procedures and the professionalism shown by its team.

Geocycle transforms industrial by-products and wastes into alternative fuels and raw materials, providing a valuable thermal energy source for Cement Australia's cement kilns.

The pre-treatment platform at Dandenong handles a wide range of secondary materials. Significant capital investment has been made in their innovative, high-performance Dandenong plant that produces substitute fuels.

The company has made this investment to meet the high standards its specialised activities require in safety and the environment, while at the same time providing the plant with the best technologies available.

The benefits of recycling industrial by-products for use in cement works

Recycling industrial waste as alternative fuels and raw materials in the cement-making process helps to preserve non-renewable natural resources such as fossil fuels. Recycling also provides a dependable and responsible solution for the disposal of waste from numerous industry and public service sources. Some of these wastes cannot be recycled however they offer attractive energy potential or provide the mineral components required for the production of cement.

This highly regulated activity is subject to EPA licensing so our customers and the community can be assured the process results in no detrimental environmental impacts. Geocycle provides an environmentally-friendly solution for re-using the types of materials that would otherwise be buried in landfill sites.

Depending upon the traditional fate of these materials, as well as the relative greenhouse gas intensity of the substitute fuel blend, the Geocycle alternative can also provide a greenhouse gas benefit.

For the manufacturers of cement, this procedure also represents cost savings in the generation of heat for a process that consumes large amounts of energy. It also enables them to remain competitive on the international market.

Within Cement Australia, Geocycle is responsible for everything to do with treating and recycling secondary materials for use in the company's cement plants. The people at Geocycle have considerable experience at their disposal and use this knowledge to develop resource conservation solutions in partnership with its customers.

How Geocycle works

Geocycle processes in excess of 20,000 tonnes of secondary material each year. The company employs 28 people, with representatives in each state. Markets served by Geocycle include paint, chemical, ink and surface coating, metals, mining and electrical industries.

Typically, Geocycle processes a wide variety of secondary materials including solvents, paints, inks, oil, greases, tars, agricultural chemicals and surfactants. The materials received at Geocycle vary from thin liquids to sludges, solids and even some

Geo means 'earth' in Greek, while cycle calls to mind the cycle of life. 'Geocycle' refers to our ability to convert waste into a safe, usable resource.

powders. Material packaging also varies from small paint tins to 205 litre drums, IBCs and bulk tankers.

Received materials often differ considerably in composition and form. Uniquely Geocycle has invested in a purpose built laboratory and equipment to ensure conversion to usable fuel in the safest, most efficient and environmentally beneficial way. To sustain these high standards Geocycle maintains accreditation to ISO14001 (Environmental), AS4801 (Health & Safety) and ISP 9001 (Quality).

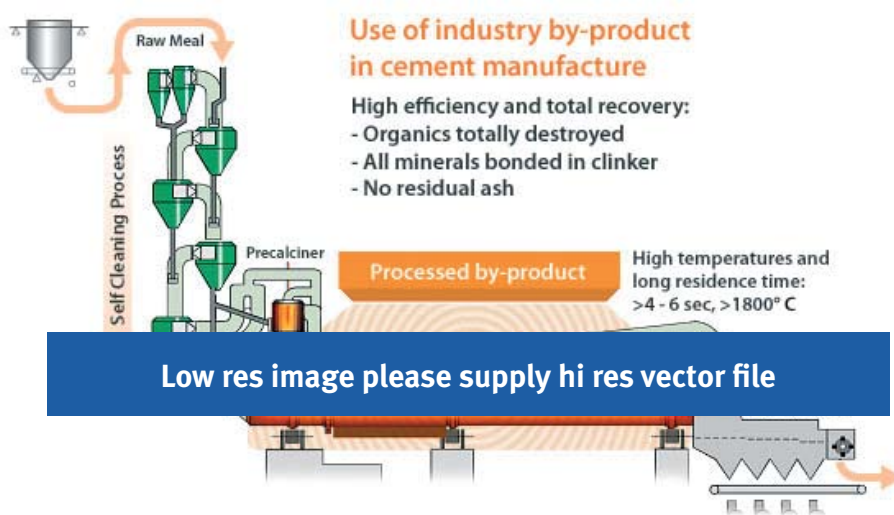
The benefits of co-processing in cement kilns

Geocycle's waste management services go well beyond traditional means with co-processing. Co-processing is valuable in the manufacture of an essential product – Portland Cement.

Within the cement manufacturing process, co-processing completely and safely captures a material's energy and mineral value. There is no residual ash and, more importantly, the intense high temperatures and chemical nature of the cement making process, ensures the final cement product quality.

When secondary materials are completely destroyed; any future liability for waste residues, off-specification and out-of-date products is removed.

Co-processing preserves fossil fuels and naturally occurring raw materials for future generations.



For the past 15 years, Geocycle's site at Dandenong has seen a number of major alterations

- 1992** Pre-processing begins and first shipments sent to Geelong Cement
- 1998** Solvent recovery and incineration ceased to concentrate solely on cement kiln fuels
- 2001** First shipments to Gladstone kiln of solvent based fuel (SBF)
- 2007** First shipment to Railton of high viscosity fuel (HVF)

Geocycle leads the way in safety, health, environment & quality.



Environment

Geocycle is an EPA approved processor of hazardous and other wastes. The Dandenong facility holds a Victorian EPA licence (number EI21010), enabling Geocycle to safely transform waste into fuel and raw materials for use in the manufacture of cement. Geocycle is also accredited to ISO 14001.



Health & Safety

Given the nature of the materials that Geocycle processes, strict attention is given to best practice health and safety requirements – adherence to these practices is integral to the way Geocycle does business. Geocycle is accredited to AS 4801.



Quality

Geocycle has invested in a purpose built laboratory, where experienced chemists are trained in the use of modern analytical testing equipment. Through the analysis of pre-shipment samples, Geocycle partners with customers to determine the suitability of their by-products for use as a fuel and or raw material in the cement making process. Geocycle is accredited to ISO 9001.



For additional information, please visit our website www.geocycle.com.au, or alternatively contact us on Tel: 1300 657 057