

# Refuse Derived Fuel at Adelaide Brighton Cement

Since becoming the first Australian business to adopt Refuse Derived Fuels (RDF) as an integral part of its manufacturing process 15 years ago, Adelaide Brighton Cement has achieved:

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A 200,000 tonne reduction of raw materials, such as clay, that are mined to produce cement;

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Ongoing diversion of 200,000 tonnes per annum of refuse away from landfill

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Over 12.5 million GJ (Gigajoules) of natural gas replacement

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## What is RDF?

RDF is refuse from the mixed construction and demolition industry that would otherwise be sent to landfill.

Refuse is diverted and segregated at a specialised third party facility and material that has been appropriately processed is sent to ABC's Birkenhead plant.

Although ABC was the first organisation to use RDF in Australia, it is a commonly used practice in Europe and North America.

## How ABC uses RDF

Cement is one of the most widely used construction materials in the world. ABC's cement is used to build homes and vital infrastructure throughout South Australia and other parts of Australia.

The production of cement is a highly energy intensive process with kilns requiring temperatures of up to 1600oC in order to produce the cement minerals. Kilns have traditionally used fossil fuels such as natural gas to achieve these temperatures.

## The three stages of RDF:



1

Refuse from the construction and demolition industry is diverted from landfill.



2

Combustible refuse powers the kilns, any remaining ash forms part of the clinker.



3

The clinker forms part of cement, which is used in homes and buildings around South Australia.

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### Further information visit

[www.adelaidebrightoncommunity.com.au](http://www.adelaidebrightoncommunity.com.au)

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### Email us at

[BirkenheadCommunity@adbri.com.au](mailto:BirkenheadCommunity@adbri.com.au)

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During the hours of 8:30am and 5:00pm, you can reach us on **8300 0300**

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For matters that arise after hours, please contact our Community Hotline on **8300 0520**

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Adelaide Brighton Cement Ltd

The RDF combustible material is safely burnt at high temperatures in the plant's firing kilns. Any remaining ash becomes part of the clinker product produced by the kiln, which then undergoes further processing into cement.

### RDF quality standards

Over the 15 years that ABC has successfully used RDF it has worked closely with local and state governments, private industry and the community to ensure its facilities and processes are of the highest standard.

ABC began trialling RDF as a fuel source in 2003 and received approval to use it continuously in 2004.

An environmental license was developed with the SA Environmental Protection Authority in consultation with the ABC Community Liaison Group and the local community, and ABC continues to work closely with these groups in its management of RDF.

RDF has a different burning mechanism than natural gas, which has resulted in a significant reduction of airborne nitrous oxides (NOx) emissions from the Birkenhead plant.

As part of the environmental licence for the Birkenhead plant, ABC keeps the EPA and

the community up to date on the ongoing success of RDF through regular public reports on the results of independent environmental monitoring.

### The benefits of RDF

The use of RDF diverts a considerable amount of refuse away from landfill.

In a single year, ABC's program diverts about 200,000 tonnes of material away from landfill, and over the 15 years since its inception more than 2 million tonnes of refuse has been diverted from landfill. This is enough to fill Adelaide Oval to the level of the highest spectator stands.

The process also significantly reduces ABC's use of natural gas, decreasing the company's reliance on traditional fossil fuels.

**Over the course of the RDF project ABC has been able to conserve 12.5 million GJ of natural gas.**

This volume of gas is enough to power 49,000 South Australian homes every year. (The average South Australian household uses approximately 17 GJ of gas per year).\*

\* Reference: <https://www.australiangasnetworks.com.au/gas-explained/about-natural-gas/costs-of-natural-gas>

RDF has also resulted in a 200,000 tonne reduction in the mining of natural resources that are necessary to make cement.

This helps to preserve South Australia's natural resources for future use.

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