

CEMEX is a global building materials solutions company with leading positions in cement, ready-mixed concrete and aggregates. The company provides services and products in over 50 countries and has more than 50,000 employees around the world. In the UK, CEMEX generates in excess of £1 billion in annual sales and has a network of more than 500 locations.

The company is dedicated to building a better future and couples financial achievements with a firm commitment to sustainable development to ensure a better quality of life for everyone, now and in the future.



CEMEX UK

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Welcome to Barrington Cement Plant



1 A long tradition

Cement has been made in the Cambridgeshire village of Barrington for more than 120 years. Over that period, the plant has provided employment for several generations of local people and supplied its essential building material all over the south and east of England. In the early days, if workers didn't have their own picks and shovels, they didn't get a job!

Construction of the original works on the present site started before the First World War, but this and other difficulties meant that the Dreadnought Portland Cement Company never traded and was wound up in 1921. Eastwoods Cement acquired the site and completed the plant in 1927.



In the early 1960s, Rugby Cement acquired the business, and in 1963 a fourth kiln was commissioned, with a new quarry raw plant, wash mill and cement mill. The three old kilns and four cement mills were demolished in 1992. The latest chapter began in 2005, when CEMEX UK took over RMC, which had acquired Rugby Cement a few years previously.

KEY FACTS

- Cement was invented in Britain
- The average family creates a need for a tonne of cement every year
- No house, school, hospital or road could be built without cement.

Raw materials

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CEMEX UK's Barrington plant makes its cement using local chalk and clay taken from different strata in the same quarry. Around 1,000 tonnes each of chalk and clay are needed every day. They are dug using a 45-tonne hydraulic excavator which overcomes the need to blast the sometimes hard material, with resulting environmental benefits.

Forty-tonne dump trucks then haul the chalk and clay to the raw preparation area a mile away. The chalk and clay is crushed and mixed into a slurry, with the addition of iron oxide - a by-product of the steel industry that would otherwise have to be landfilled.



The raw materials are tested hourly using state-of-the-art x-ray techniques in order to ensure a finely balanced chemical mix.

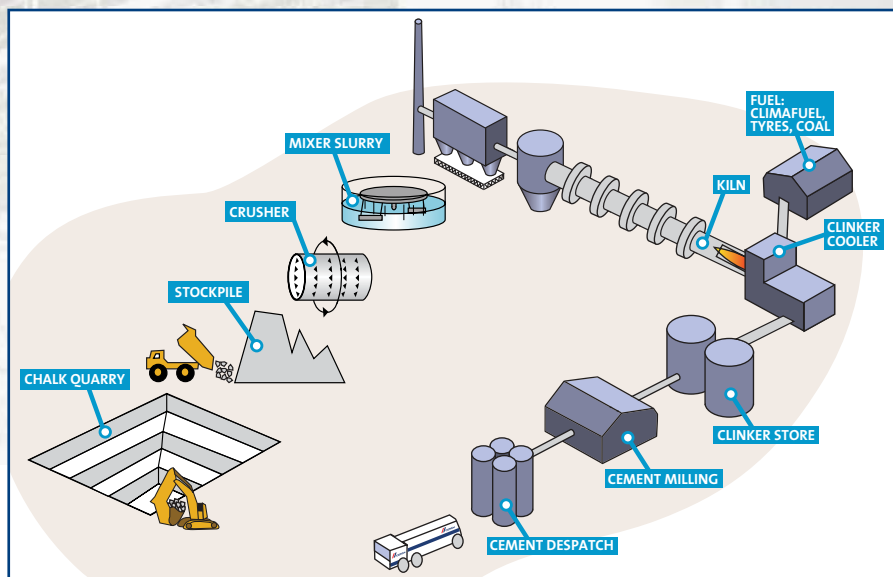
KEY FACTS

- The main raw materials were created around 100 million years ago
- Raw materials are almost 50-50 chalk and clay
- Iron oxide makes up just 1 per cent.

3 Production

The kiln is at the heart of the cement production process. Barrington has a single kiln, some 136 metres long, with a 3.6 metre diameter. The prepared slurry enters the slowly rotating kiln, where it moves steadily towards the burning zone, reaching around 1400°C.

The intense heat in the kiln brings about a chemical change that transforms the raw materials into cement 'clinker' – hardened lumps. After cooling, the clinker is ground in large ball mills, to the powder we know as cement. Gypsum is added at this stage to control the setting time of the finished product.



The introduction of a sophisticated new kiln firing system in 2006 means the process requires significantly less fuel, and has led to a 10 per cent reduction in carbon dioxide (CO₂) emissions and a cut of more than 30 per cent in the oxides of nitrogen (NO_x) produced.

KEY FACTS

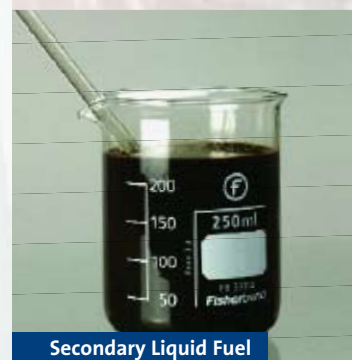
- The plant can produce 300,000 tonnes of cement a year
- Barrington's kiln is 136 metres long, longer than a football pitch
- A cement kiln operates at temperatures at which steel would melt.

4 Fuels for the future

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Gases from the kiln are subjected to an intense filtering process before being safely emitted to the atmosphere. The works use electrostatic precipitators – large electrically-charged plates – to attract and remove the dust. Some of the by-product can be returned to the process in order to reduce landfill.

Whilst traditional fossil fuels – coal and petcoke – still have an important role to play, Barrington is increasingly using more sustainable and cost-effective alternative fuels. Since 1998, it has been successfully using Secondary Liquid Fuel (SLF) made from liquid wastes that can't otherwise be recycled, such as paint thinners, inks and



Secondary Liquid Fuel



Climafuel

varnishes. SLF reduces emissions of sulphur dioxide and oxides of nitrogen compared to using fossil fuels alone.

The most recent alternative is *Climafuel*, a new solid recovered fuel made from household waste which, as well as being an integral part of the plant's plans to cut carbon emissions, reduces landfill and saves fossil fuels for future generations.

KEY FACTS

- By using less fossil fuels, alternative fuels reduce CO₂ emissions
- SLF reduces emissions of sulphur dioxide and oxides of nitrogen
- *Climafuel* reduces landfill and saves fossil fuels for the future.

5 Delivering the goods

Barrington cement plant produces ordinary Portland cement for general construction uses and also makes a special blended cement for a local customer. This involves using the customer's reject cement board sheeting as a raw material.

From storage silos, most of the cement is loaded directly into bulk tankers. The plant delivers its essential end-product by road over a large area of the south-east and east of England.

As a supplier of a vital construction material, the plant plays a largely unseen role in daily life over a wide area - supplying material for houses, hospitals, schools, roads and bridges.



Wembley Stadium – built using cement from Barrington

The quarry also produces a hard limestone material known as “clunch”, which is sold in large blocks as a building stone to be used in the restoration of historic buildings throughout East Anglia - from Ely Cathedral to Trinity College Chapel, Cambridge.

KEY FACTS

- Every year, the plant produces enough cement for 17,000 homes
- Cement from Barrington has been used in projects across the UK
- High profile projects supplied include the new Wembley Stadium.

6 Focused on people

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The cement plant has been part of the community of Barrington and surrounding villages for many years. In that time, it has provided direct employment for thousands of local people and supported many more jobs through its links with other businesses in the area. In total, the company's annual contribution to the local economy through wages, rates and the buying of services adds up to some £4 million.

Even in an age when technology is increasingly sophisticated, cement-making remains a ‘people industry’ which is heavily dependent upon the skills and commitment of its employees. Their health and safety is the company's top priority, and career development is another major focus.



The company also has a strong commitment to its neighbours in terms of minimising its impact on them and ensuring high environmental standards. The plant is equally community-minded in its support for local initiatives, including a £5,000 donation and safety advice towards repairing the 400-year-old bells at Barrington All Saints' Church. Around 500 people visit the plant each year - its open days attract visitors from a wide area, as well as raising substantial amounts for charity.

KEY FACTS

- The plant employs around 100 people
- It creates work for many more indirectly
- It contributes around £4 million to the local economy every year.