

Circular economy: closing the loop



A circular economy aims to minimise pollution and waste by keeping products and raw materials in use for as long as reasonably possible by reusing, repairing, refurbishing and recycling.

Our cement, concrete and asphalt operations support this approach to consumption and production through their resource efficiency, co-processing – using waste as energy and a raw material at the same time – and by recycling.

Moving towards a circular economy helps address three of the major challenges that face societies around the world - mitigating climate change, managing waste and conserving natural resources – and we are playing our part:

Mitigating climate change

In cement manufacturing, the replacement of fossil fuels and primary raw materials contributes significantly towards the circular economy and provides an important service by making beneficial use of a range of society's waste and by-products.

By 2030, our aim is to provide 80% of kiln energy with alternative fuels, of which 40% could be biomass. This would lead to an overall 3% decrease in CO₂ emissions from our cement operations.

Managing waste

In 2018, the UK generated over 220 million tonnes of waste (source: UK statistics on Waste, July 2021). One proven solution to reducing its impact of waste is to transform it into recycled materials and thermal energy in cement manufacturing.

Conserving natural resources

Some waste is suitable for use in cement production if it contains compatible chemicals, like oxides of calcium, silicon, aluminium and iron; for example, iron oxide waste from water treatment or spent catalysts from oil refineries.

About 10% of raw materials used in the UK's production of clinker – cement's key component – is recycled material and ash from burning alternative fuels.

We co-process alternative fuels (e.g., waste paper, plastics, and oils) and raw materials for clinker production and use high quality by-products from other industries (e.g. GGBS) for concrete manufacture.

Did you know?

- Concrete is 100% recyclable, so using waste from demolished structures will enable us to manufacture concrete more sustainably.
- Asphalt is also 100% recyclable. During a road improvement project, whatever can be removed by planing, we recycle back into a surfacing mix called recycled asphalt planings (RAP), which avoids the use of virgin aggregates and reduces bitumen consumption.
- Grey water with up to 18kg/m³ solids can be recycled into fresh concrete.