

**“Cement is essential for our everyday way of life and the economy, but reducing the CO<sub>2</sub> emissions associated with its production is necessary if we are to be truly sustainable in the future.”**

Stuart Escott, Aberthaw plant manager at Tarmac

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## Circular Economy

### Waste-Derived Fuels

As Tarmac continues to investigate new and innovative ways of reducing and reusing waste materials, 2023 saw us make further progress in successfully using waste-derived fuels to power our operations. Using other people’s waste not only conserves natural resources and reduces the amount of waste sent to landfill, but also allows us to replace fossil fuels with lower carbon alternatives.

Cement manufacture is energy intensive and has traditionally relied on coal and petroleum coke as a fuel source. The cement manufacturing process offers the unique benefit of ‘co-processing’ waste-derived fuels – where the energy from the waste drives the chemical reaction that makes cement, while the minerals in the material are simultaneously incorporated into the cement product. Unlike other energy recovery options, co-processing is highly efficient, and no residue is produced, ensuring that all the mineral content is recycled into a new and durable construction material.

In 2023, we made use of over 138,000 tonnes of waste-derived fuel, representing 42 per cent of the entire thermal input required in our cement business. Some waste-derived fuels, such as waste wood chips and processed sewage pellets, are 100 per cent biomass and are regarded as carbon neutral. Others, for instance, tyres and solid recovered fuel - made from materials such as paper and cardboard - contain a proportion of biomass. This means that while they are not carbon neutral, they generate much lower carbon emissions than fossil fuels.



Around 18 per cent of the thermal input into our cement operations in 2023 was from waste biomass. We have our own experts who are supporting our move to waste-derived fuels for use within cement plants, by identifying and assessing sources of wastes suitable to be used as fuels.