"The installation of the new conveyor belt has been amazing - not only have we seen the benefits in increased production energy efficiency, and cost savings on electricity and wear parts, it has also boosted the team's morale due to the improved performance and reduced periods of downtime."

Kevin Browne, Sonning Quarry site manager

Planet NET ZERO

Climate Action

Investment in Plant and Equipment

To help us achieve maximum optimisation, efficiency, and sustainability across our processes, it is essential that Tarmac invests in our plant and equipment. We continued to invest in our sites across 2023, from large to smaller scale projects.

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In 2023, the largest gyratory crusher in the UK was fitted at Tarmac's Mountsorrel Quarry in Leicestershire. The new crusher will be used to crush large rocks produced from the blasts into smaller ones, which will then be screened and separated into different sized aggregates we use for our products.

The new installation weighs over 1,400 tonnes, and includes new belt conveyors, belt feeders, tilt chutes, screens and more. The new crusher is also semi-mobile, which allows the Mountsorrel team to access previously blocked reserves.

Gemma Bettoney-Bramhall, Mountsorrel project manager, said: "It's been a really interesting project to be involved in. More than 600 people have worked on the primary development project – which comprises a new primary crusher, screenhouse and conveyor system – from design to delivery, so everyone should be proud of what they've achieved."

To help drive efficiency on site, the team at Sonning Quarry near Reading upgraded the conveyor system in 2023. The original conveyor at the site was old and needed replacing, having become a bottleneck for primary production. In heavy rain, due to the conveyor's steep

gradient, minerals could sometimes trickle down the conveyor. This led to high downtime due to the spillage and other mechanical issues.

In order to combat this issue, a new, wider belt was fitted to increase throughput and eliminate spillage. This was at a lower gradient, meaning that the material would not slip backwards once wet. New access walkways were also installed alongside the conveyor to aid inspection and maintenance. The team at the quarry created a stockpile before the planned shutdown to install the new conveyor, which ensured there was no lost production during the installation period.

Since the new conveyor has been fitted, spillage due to poor weather and wet material has been eliminated. Energy consumption has been reduced through the removal of a separate conveyor and motor. These changes have resulted in a cost saving and an increase in production.

Our Tyttenhanger Quarry in Hertfordshire also made upgrades in 2023, changing its water pumping system from a diesel pump to a more sustainable electric replacement. The new pump will be used to extract fresh water from the landfill lagoon to the ski lake on the processing plant, helping to maintain a water balance to supply process water to the sand and gravel plant, maintaining production.

By switching the pump from diesel to electric, the site has reduced energy consumption by 35kWh, and is also expecting to see savings being made from the new pump's yearly running costs.