



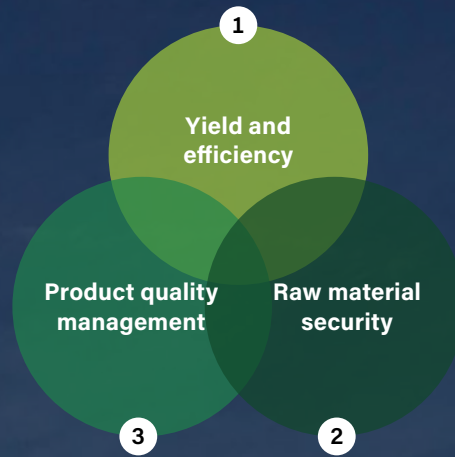
Optimising our facilities for improved output

At the heart of our success lies our unparalleled approach to managing manufactured assets. We strive for excellence in every aspect, from maximising yield to reducing costs, and increasing efficiency. We achieve this through our commitment to conserve energy, secure supplies of raw materials, and maintain rigorous quality control.





Focus areas



Stakeholders impacted



SDGs impacted



1

Focus on yield and efficiency

We continue to focus on optimising production at each of our facilities. We are constantly striving to improve our yield of CPC through various efforts, such as vaporising smaller amounts of green petroleum coke fines during the calcination process, increasing capacity utilisation and plant reliability, and securing more sales to keep our calciners running at full capacity. We are also working closely with our customers to optimise the available green cokes and meet their specific product specifications. By helping customers expand their CPC specifications so we can utilise marginal cokes that were previously not used, we are able to draw from a larger pool of green cokes and increase the efficiency and profitability of our operations.



2

Securing reliable raw materials supplies

Given the reduced oil-refining activity during the pandemic and the declining availability of high-quality, low-sulphur pet cokes, it is crucial for us to secure our supply of green petroleum coke. To ensure reliable access, we have been entering term agreements and maintaining strong relationships with our suppliers. In addition, we are working with our customers to expand their product specifications so that we can utilise more marginal cokes to better control costs and overcome difficulties in obtaining raw material supplies.

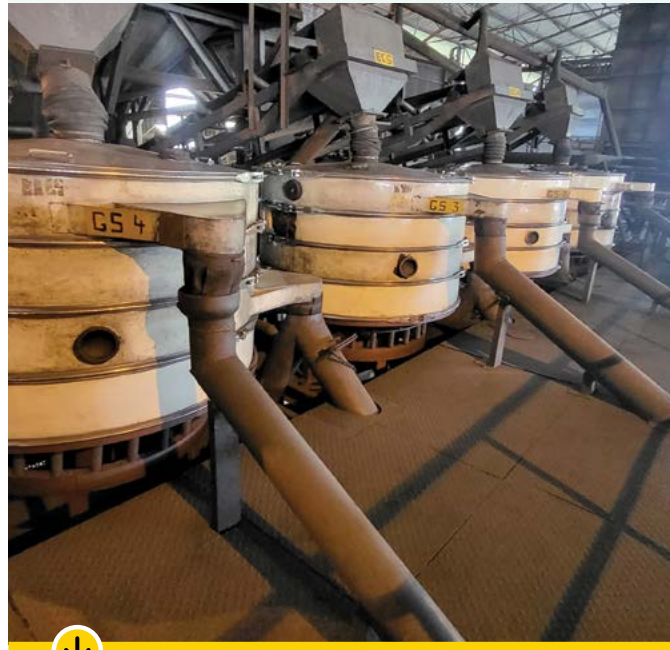
3

Enhancing product quality

In our efforts to produce high-quality calcined petroleum coke and coal tar pitch (the most essential ingredients for aluminium-anode production), we have put a lot of work into optimising our calcination and distillation processes. There is a strong interaction between these two Carbon businesses, and we make sure to keep our customers informed about how the products can best be used together in the production of anodes for smelting. Through ongoing research and development and close collaboration with our customers, we are able to identify opportunities for adjustments in our products to ensure optimal performance in the anode-production process.

Key initiatives for product quality

- Commenced commercial operation of the vertical-shaft calciner in India, resulting in a higher bulk-density product with positive customer feedback
- Installed a CPC-crushing and screening system at the new vertical-shaft calciner plant in India in CY22 to produce denser particle-size products
- Installed a dedicated CPC-crushing and screening system at the Lake Charles calciner in US to improve ability to meet particle-size specs for non-anode customers
- Achieved general improvement in CPC bulk density in US through raw material quality improvements



CPC-screening system to fulfil customer requirements

We successfully implemented process and product innovations in two of our calcining plants. Integrated CPC-crushing and -screening systems were installed at the vertical-shaft calciner in India's Andhra Pradesh Special Economic Zone (SEZ) and the Lake Charles calcining plant in the US. The system installed in the SEZ was designed to reduce the CPC maximum particle size to meet specific customer specifications, while also reducing dust generation.

At the Lake Charles calciner, a custom-designed system was installed to improve the control of the particle size of the CPC, resulting in a higher-quality product for customers and improved efficiency in producing specific-sized products at the calciner.