

Business segment review

Carbon

RAIN's Carbon segment produces calcined petroleum coke, coal tar pitch, carbon black oil, and other carbon products. These are critical raw materials for the production of aluminium, steel, rubber and many additional products.



2.32 Mn MT
Sales volume

₹132,968 Mn
Revenue from operations

74%
Contribution to consolidated revenue

Market dynamics

Challenging economic conditions

During the year under review, challenging economic conditions have significantly influenced the demand for calcined petroleum coke (CPC) and coal tar pitch (CTP). A slow recovery in China, coupled with persistent high inflation in the USA and Europe, has led to a slowdown in manufacturing activity, resulting in a decrease in CPC and CTP demand during 2023.

Competitive market landscape

Amidst these challenging economic conditions, markets have become increasingly competitive, with companies vying to maintain profitability amidst cost pressures. Intensified CPC and CTP production in regions such as the Middle East and South Asia have exacerbated competition, driving down prices and impacting margins.

Long-term aluminium demand

Despite short-term challenges, the long-term outlook for aluminium, a primary driver of CPC and CTP sales, remains optimistic. Growing demand

for aluminium in sectors including automotive and infrastructure, supported by government investments worldwide, is expected to fuel sustained growth. However, economic uncertainties in the near-term may introduce volatility in the market, necessitating prudent cost management strategies to navigate fluctuations effectively.

End-industry applications

Primary aluminium smelting remains the key driver of the world's CPC and CTP sales. Smelter production reached record levels in 2023 despite a challenging economic environment. Additionally, our CPC products serve the titanium dioxide (TiO₂) industry, primarily used in paints. Although TiO₂-related CPC volumes faced challenges due to slowing construction activity, growth is likely as economic outlooks improve.

85%

CPC sales comes from primary aluminium smelters



Our response

We remain focused on managing costs and maximising efficiency in response to the dynamic market conditions. With recent positive regulatory developments in India, we see a strong potential to significantly enhance capacity utilisation at our sites in India and the USA. As we expand our output, we will continue leveraging our best-in-class technical expertise and commitment to helping our customers optimise product usage to extract maximum value.

Our industry-leading research on the performance of carbon products, combined with our unique position as a supplier of both CPC and CTP enable us to help aluminium customers maximise productivity. This distinctive capability will allow us to differentiate our products effectively in a competitive market.

Key developments of 2023

In 2023, we achieved a significant milestone in our Carbon segment by completing industrial-scale aluminium smelter trials of our proprietary Anhydrous Carbon Pellets (ACP). These trials involved a shipment comprising 70% CPC and 30% ACP, with the resulting anodes successfully utilised in electrolysis. We are awaiting final feedback from the trial, including detailed anode

quality testing results. Additionally, we devoted significant effort towards investigating ACP production flowsheet changes to increase production rates. While the upgrade project is currently on hold due to market challenges, we remain optimistic that the identified optimisations will enable a three-fold increase in ACP production rates in the future.

Future prospects

We will continue optimising processes in the Carbon segment to ensure efficient conversion of raw materials into finished products. Expanding sources of raw materials through R&D efforts and logistical innovations is a key focus. We remain committed to providing materials required by emerging applications in the battery industry and new energy storage industry.