

Technological Goals and Progress for High-Quality Development of China's Aluminium Industry

Wanchao Liu

General Manager

Zhengzhou Nonferrous Metals Research Institute of Chalco (ZRI), Zhengzhou, Henan, China

Corresponding author: wanchao_liu@chinalco.com.cn

<https://doi.org/10.71659/icsoba2025-kn002>

Abstract



This paper will analyse the target requirements for achieving high-quality development in China's aluminium industry concerning industrial structure, carbon emission management, and comprehensive utilization of red mud. Furthermore, it will introduce recent progress made by the industry in areas such as efficient resource utilization, red mud reduction and utilization, energy-saving in electrolysis and carbon reduction, high-performance anode production, and digitalization and smart manufacturing. Considering China's specific context, the paper will propose reflections and recommendations for the future high-quality development of the aluminium industry.

Keywords: China aluminium industry, Carbon emission management, Resource utilization, Red mud reduction and utilization, Energy saving.