

SUSTAINABILITY REPORT

Generated on: 2025-11-27 12:42

INPUT DETAILS

metal_type: Aluminium
process_type: Primary
region: India
transport_mode: Road
production_quantity_tons: 1

RESULTS

CO2 Emissions (kg): 13986.68
Circularity Score: 19.91

SCENARIOS

CURRENT - CO2: 13986.68 | Circularity: 19.91
OPTIMISED - CO2: 10490.01 | Circularity: 24.89
FUTURE - CO2: 5594.67 | Circularity: 31.86

AI EXPLANATION

Okay, let's analyze the sustainability performance of this aluminium project in India, considering the provided data.

Overall Sustainability Performance:

Based on the provided data, the current sustainability performance of primary aluminium production in India is moderate, with significant room for improvement in both CO2 emissions and circularity.

Why the Impact is at This Level:

- High CO2 Emissions:** The current CO2 emissions of 13,986.68 tonnes CO2e indicate reliance on energy-intensive primary production processes.
- Low Circularity Score:** A circularity score of 19.91 suggests limited closed-loop material flows and recycling integration.

How Circularity Can Be Improved:

The research suggests several key strategies for enhancing circularity:

- Increased Recycled Content:** Prioritize the use of recycled aluminium. The research clearly states that increasing recycled content is a primary strategy for reducing emissions and improving circularity.
- Improved Scrap Sorting Technologies:** Invest in advanced sorting technologies to enhance the quality and volume of recycled material.
- Design for Recycling:** Implement design-for-recycling principles in architectural applications. This involves creating products that are easy to disassemble and recycle.
- Optimized Collection and Logistics:** Improve collection and transportation systems to increase the efficiency of the recycling loop.