

# SUSTAINABILITY REPORT

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## 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 inputs.

### \*\*Overall Sustainability Performance:\*\*

Based on the provided data, the current sustainability performance of primary aluminium production in India is:

### \*\*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 smelting processes.
- \* \*\*Low Circularity Score:\*\* A circularity score of 19.91 suggests limited closed-loop material flows and recycling practices.

### \*\*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 recycled content can reduce CO2 emissions by up to 95%.
- \* \*\*Improved Scrap Sorting Technologies:\*\* Invest in advanced sorting technologies to enhance the quality and quantity of recyclable materials.
- \* \*\*Design for Recycling:\*\* Implement design-for-recycling principles in architectural applications. This involves creating products that are easy to disassemble, reuse, and recycle.
- \* \*\*Optimized Collection and Logistics:\*\* Improve collection and transportation systems to increase the volume and quality of recyclable materials collected.