



Emission Estimation Results

Comprehensive analysis of your mining operation's carbon footprint



Excavation

Total Emissions: **13622.40 kg CO₂**

Per Worker: **40.91 kg CO₂**

Per Ton: **0.58 kg CO₂**



Transportation

Total Emissions: **1259.70 kg CO₂**

Per Worker: **3.78 kg CO₂**

Per Ton: **0.05 kg CO₂**



Equipment

Total Emissions: **2492.20 kg CO₂**

Per Worker: **7.48 kg CO₂**

Per Ton: **0.11 kg CO₂**



Total

Total Emissions: **17374.30 kg CO₂**

Per Worker: **52.18 kg CO₂**

Per Ton: **0.74 kg CO₂**

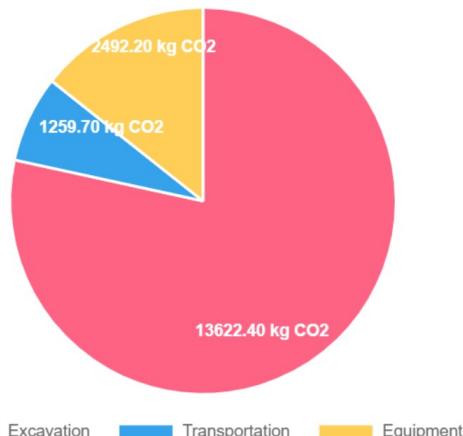
Input Data Summary

Excavation:	144 tons	Workers:	333
Transportation:	34 km	Fuel Type:	coal
Fuel Consumption:	244 liters	Mitigation:	344
Equipment Hours:	34 hrs	Annual Production:	23444 tons

Carbon Credits Analysis

Baseline Emissions:	52167.28 kg CO₂
Total Emissions:	17374.30 kg CO₂
After Mitigation:	344.00 kg CO₂
Carbon Credits:	51823.28 credits
Monetary Value:	\$2176577.76

Emission Distribution Chart



Neutralization Pathways

Explore strategies to reduce and offset your carbon footprint



Electric Vehicle Conversion

100%

EV Conversion Rate



Neutralization Target

100%

Neutralization Target



Green Fuel Shift

100%

Green Fuel Adoption

Neutralization Analysis

Total Carbon Footprint:

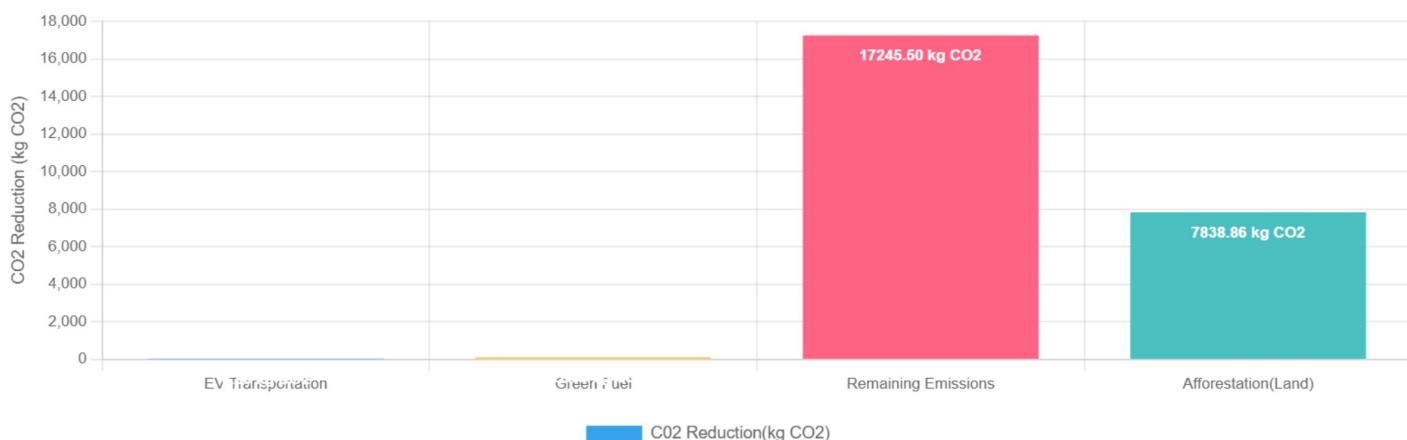
17374.30 kg CO₂

Remaining After Steps:

17245.50 kg CO₂



Neutralization Pathway Chart



Zerith Decarbonization Brief

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Target: 50% Carbon Neutrality

Total Emissions

17.37 tCO₂e

Operational Scale

Medium

Energy Mix

Coal, grid electricity, diesel



1 Current Emission Overview

- Estimated CO₂ emissions: **17.37 tCO₂e** (baseline year N/A).
- Key sources: Excavation, transportation, equipment energy, fuel use; energy/resource mix reported as: **Coal, grid electricity, diesel**.
- Operational scale: **Medium**; target neutrality: **50%**.

2 Recommended Decarbonization Solutions

Efficiency + Renewable integration:

- On-site solar PV (ground/rooftop) with hybrid inverters; 15–30% grid displacement.
- PPA/utility-scale solar/wind mix for 25–50% renewable share.
- Battery energy storage for peak shaving and diesel offset in remote ops.

Battery energy storage for peak shaving and diesel offset in remote Ops.

- Waste heat recovery on compressors and ventilation systems (2–5%).

3 Implementation Roadmap

- **Year 1**
Detailed energy audit, MRV setup, quick-win efficiency (VFDs, leaks), RE siting.
- **Years 2–3**
Commission 25–50% RE via on-site/PPA; pilot fleet electrification; methane capture.
- **Years 3–5**
Scale clean fleets, ventilation-on-demand; introduce storage; expand CBM/VAM usage.
- **Years 5+**
CCUS for residual point sources; afforestation and verified offsets for remainder.

4 Expected Carbon Reduction Outcome

Target Reduction

8.69 tCO₂e/year

to meet 50% neutrality

Coverage Strategy

50% in-operations

balance via CCUS/offsets

Export & Manage Results

Generate reports and manage your carbon analysis data

