

Emission Estimation Results

Excavation

Total Emissions:
411983.00 kg CO₂
Per Capita Emissions:
0.95 kg CO₂ per worker
Per Output Emissions:
0.00 kg CO₂ per ton

Transportation

Total Emissions:
160924970.70 kg CO₂
Per Capita Emissions:
370.50 kg CO₂ per worker
Per Output Emissions:
0.37 kg CO₂ per ton

Equipment

Total Emissions:
31770712.20 kg CO₂
Per Capita Emissions:
73.15 kg CO₂ per worker
Per Output Emissions:
0.07 kg CO₂ per ton

Total

Total Emissions:
193107665.90 kg CO₂
Total Per Capita Emissions:
444.60 kg CO₂ per worker
Total Per Output Emissions:
0.44 kg CO₂ per ton

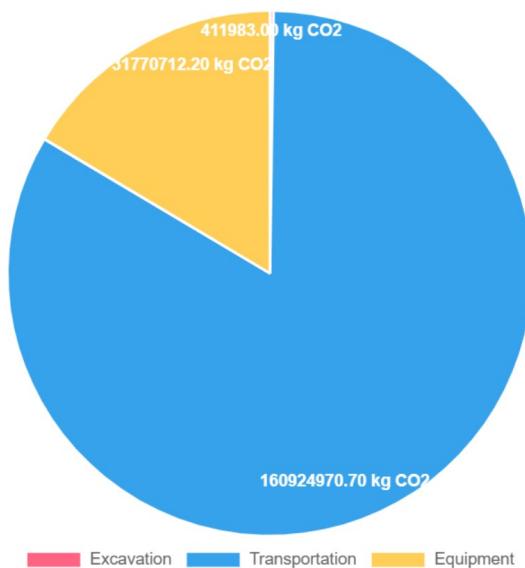
Collected Info

Excavation (tons): **4355**
Transportation (km): **4343454**
Fuel Consumption (liters): **33444**
Equipment Usage (hours): **433434**
Number of Workers: **434343**
Fuel Type: **coal**
Emissions After Mitigation Policy: **43555**
Annual Coal Production: **434343443**

Carbon credits

Baseline Emissions: **955636509.08 kg CO₂**
Total Emissions: **193107665.90 kg CO₂**
equivalents
Emissions after taking mitigation policies:
43555.00 kg CO₂ per ton
Total carbon credits: **955592954.08 per ton**
The net worth of the carbon credits are:
40134904071.36\$ per ton

Total Emissions Breakdown



Explore Neutralisation Pathways

Electric Vehicle Conversion:

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48%

Neutralize Footprint:

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30%

Shift to Green Fuel:

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39%

Neutralisation Pathways To Achieve 30% Of The Carbon Footprint

Total Carbon Footprint: **193107665.90 kg CO₂**

Target Carbon Footprint To Be Neutralised: **57932299.77 kg CO₂**

EV Transportation

CO₂ Reduction Obtained By Converting 48% Of Transportation To EV: **416971.58 kg CO₂**

Green Fuel

CO2 Reduction Obtained By Replacing 39% Fuel With Green Fuel: **6521.58 kg CO2**

Remaining Emissions To Be Reduced After Following Above Steps: **57508806.61 kg CO2**

Afforestation

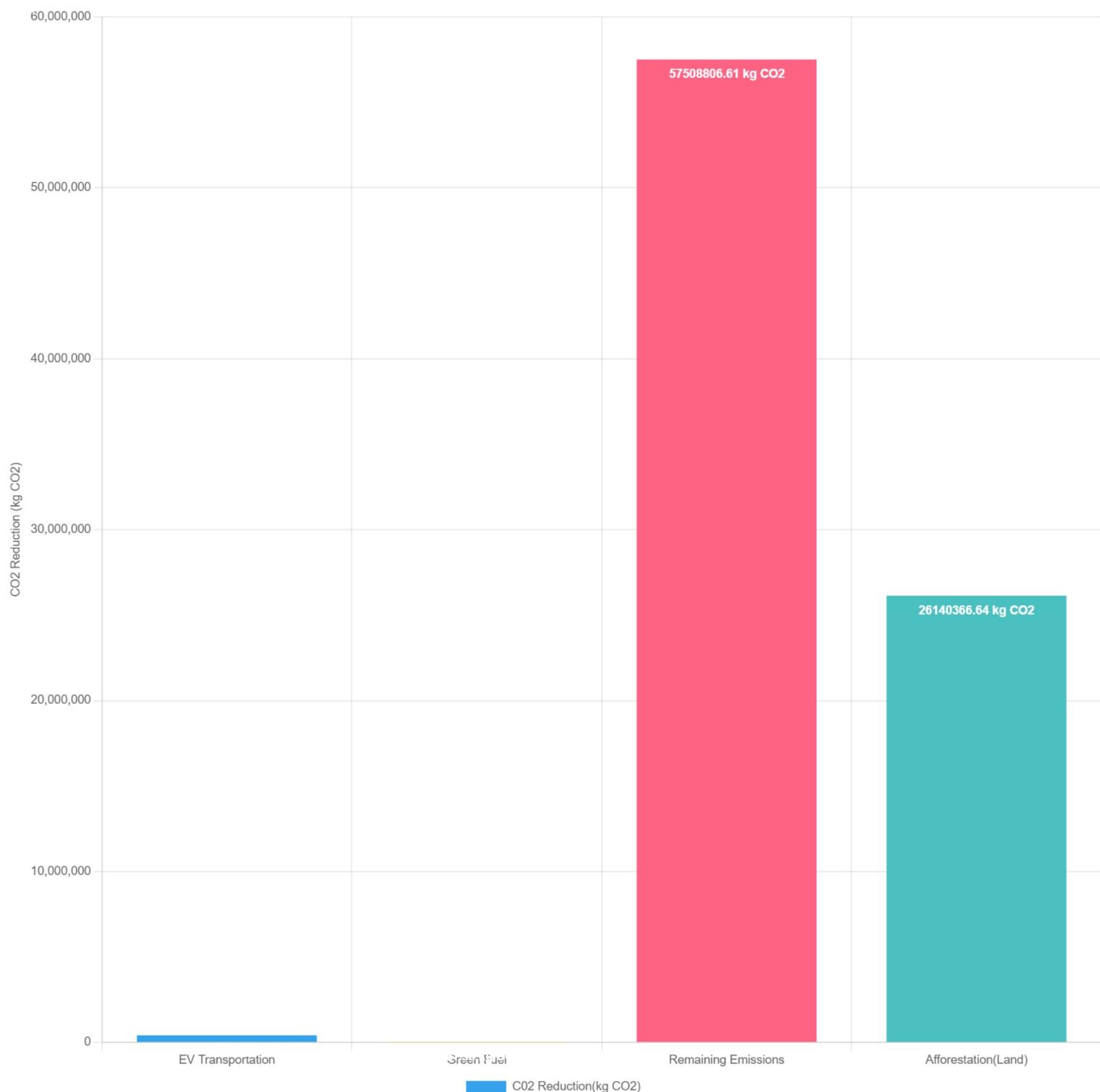
Land Required For Afforestation To Neutralise The Remaining Emissions: **26140366.64 hectares**

Estimated Electricity Savings: **17379689.93 MWh**

Remaining Emissions After Following Complete Steps: **135175366.13 kg CO2**

Neutralisation Pathway Chart

Carbon Neutralization Pathways



Zerith Decarbonization Brief

etty • 2009

Target: 50% Carbon Neutrality

Total Emissions

193107.67 tCO₂e



Operational Scale

Medium



Energy Mix

Coal, grid electricity, diesel



1 Current Emission Overview

- Estimated CO₂ emissions: **193107.67 tCO₂e** (baseline year 2009).
- 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.
- 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

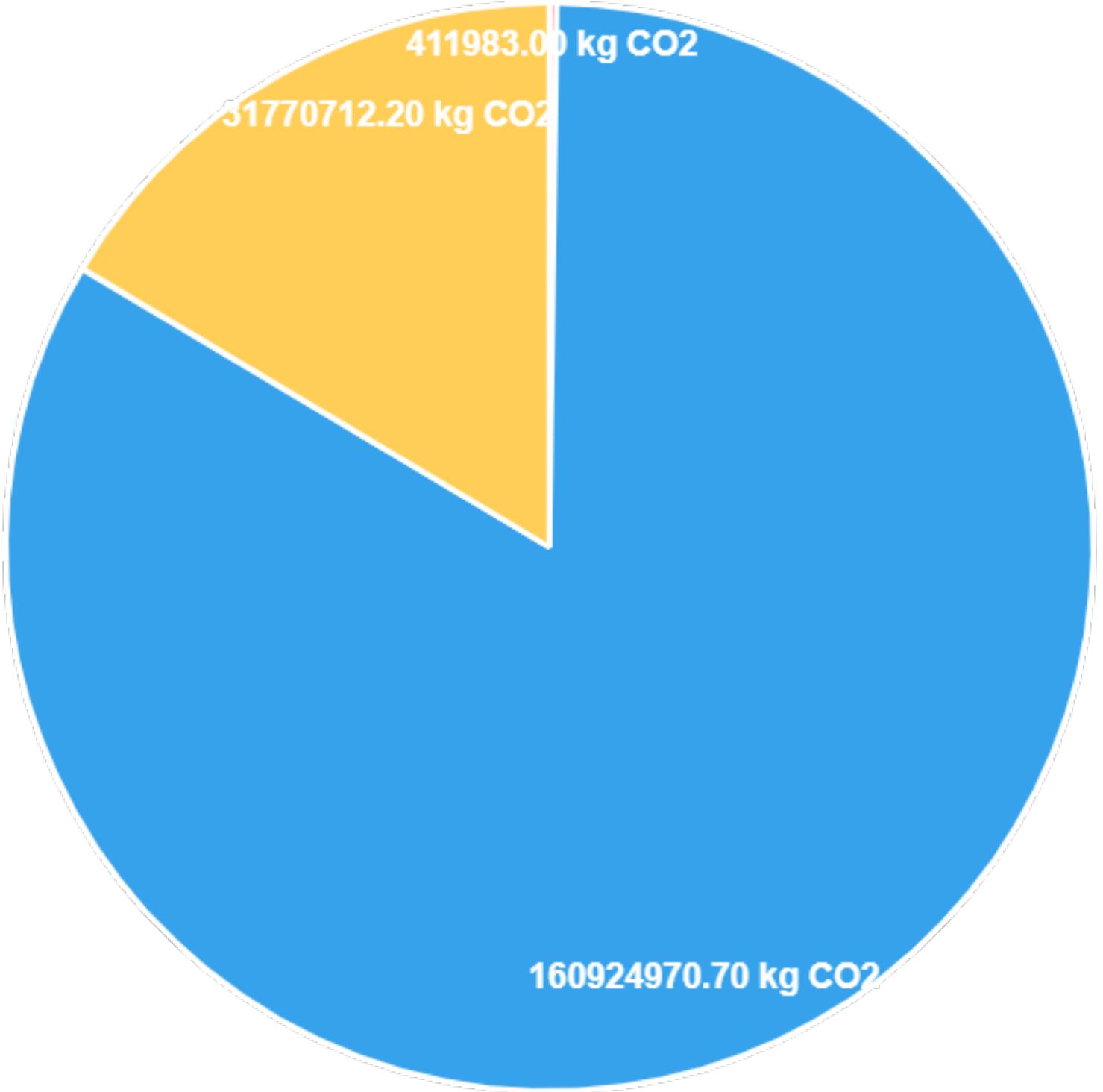
96553.83 tCO₂e/year

to meet 50% neutrality

Coverage Strategy

50% in-operations

balance via CCUS/offsets



Excavation



Transportation



Equipment

