MINING & NO NET LOSS IN MADAGASCAR

Ambatovy Joint Venture – A Case Study

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**PROJECT OVERVIEW**

**Nickel and cobalt mining & processing joint venture**

**Partners:** Sherritt International, Sumitomo, KORES, SNC Lavalin

**Investment:** ~US$7 billion

**Annual Production:**
- Nickel 60,000 t
- Cobalt 5,600 t
- Ammonium sulfate 210,000 t

**Commercial production since 2014**
MISSION, VISION & BIODIVERSITY GOAL

MISSION - Be a leader in the sustainable production of high quality nickel and cobalt for the global market.

VISION - Deliver world-class results in safety, environmental stewardship, social performance, product quality, production and cost efficiency

BIODIVERSITY GOAL - Deliver No Net Loss, and preferably a net gain, of biodiversity

DRIVERS - IFC PS6, Biodiversity Offset Standard, ICMM
• In Madagascar, a global hotspot
• In Eastern rainforest corridor
• Adjacent to Ramsar site
• Close to national parks
• Endangered & range-restricted species
• High species richness
AVOID - MINIMIZE - RESTORE

Avoid - Pipeline tunnels under forest

Minimize - Paced directional clearing

Restore - Mine site plan
RESIDUAL LOSSES DOCUMENTED
LANDSCAPE APPROACH

Offset sites
## Averted Loss Scenarios 1 – 4

<table>
<thead>
<tr>
<th>Forest Type</th>
<th>Loss (hh)</th>
<th>Averted Loss by 2040 (hh)</th>
<th></th>
<th></th>
<th></th>
<th>Potential to achieve NNL by 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Scenario 1</strong> – low background rate, low success</td>
<td><strong>Scenario 4</strong> – high background rate, high success</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>3</strong></td>
<td><strong>4</strong></td>
<td></td>
</tr>
<tr>
<td>Azonal</td>
<td>- 740</td>
<td>50</td>
<td>89</td>
<td>125</td>
<td>163</td>
<td>No NNL</td>
</tr>
<tr>
<td>Transition</td>
<td>- 175</td>
<td>93</td>
<td>110</td>
<td>259</td>
<td>275</td>
<td>3 &amp; 4 – NNL</td>
</tr>
<tr>
<td>Zonal</td>
<td>- 534</td>
<td>1,663</td>
<td>2,033</td>
<td>4,381</td>
<td>4,753</td>
<td>NNL/NG</td>
</tr>
<tr>
<td>Total</td>
<td>-1,467</td>
<td>1,807</td>
<td>2,232</td>
<td>4,765</td>
<td>5,191</td>
<td>NNL/NG</td>
</tr>
<tr>
<td>Net Gain</td>
<td></td>
<td>+ 340</td>
<td>+ 765</td>
<td>+ 3,298</td>
<td>+ 4,294</td>
<td>NNL/NG</td>
</tr>
</tbody>
</table>
Forest loss and net gain (in habitat hectares)

Year

Scenario #1  Scenario #2

Scenario #3  Scenario #4

Loss

2007 2010 2013 2016 2019 2022 2025 2028 2031 2034 2037 2040
CONCLUSION & NEXT STEPS

- Mitigation hierarchy is the foundation for NNL
- Scope for innovation in all steps of the hierarchy
- *Demonstrating NNL* scientifically is challenging, requiring continuous expert assistance
- *Ensuring sustainability* of offsets is another major long term challenge

NEXT STEPS

- Finalise offset design (critical habitat, leakage, social benefit mechanism through ecosystem services, monitoring, regional aquatic surveys)
- Ensure legal security of all offset sites
- Continue stakeholder engagement, establish governance systems and livelihoods improvement
- Develop long-term financing mechanisms
**RECOMMENDATIONS**

- Apply mitigation hierarchy
- Use a landscape approach
- Invest in regional biodiversity & social baseline surveys
- Consider sustainability early in design process
- Engage key stakeholders early & communication
- Generate livelihood benefits from ecosystem services of the offset
- Ensure coordinated social and environmental programs