

# Thousands of mines in Australia represent billions of dollars dollars in rehabilitation liability and environmental hazards

~\$18B

rehabilitation liabilities for opencut coal mines <sup>1</sup> 60K+

abandoned mines scattered across the country<sup>2</sup>

7.4 M h a

of likely threatened species habitat<sup>3</sup>

[1]: Based on Queensland Department of Environment and Science rehabilitation costing data spreadsheet.

[2]: Abandoned Mines in Queensland: Toxic time-bomb or employment opportunity?

[3]: Fast tracking extinction: Australia's National Environmental Law

# Australian communities are at odds with mining companies panies

#### Community Voices<sup>1</sup>

"That hole hurt me and my people a lot, the mine's poisoned our river, killed our fish and polluted our sacred country"

"The mine [has] rendered significant parts of Mirarr country unrecognisable today"

"We saw little animals starting to die. Then we saw people getting sicker. Then we saw people dying"

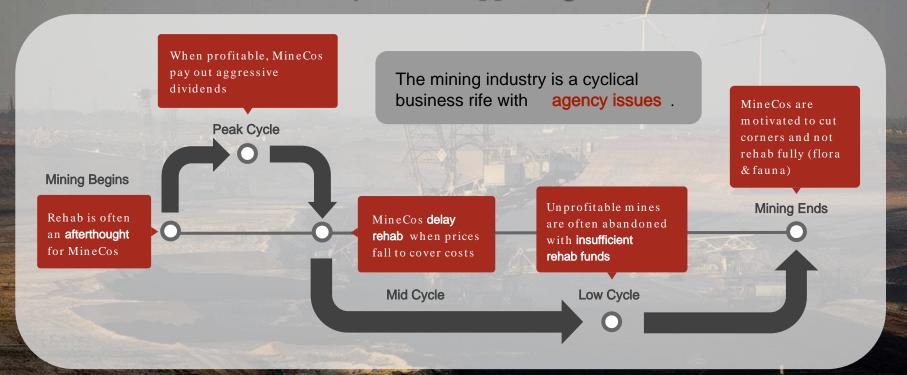
#### Mine Owners & Operators<sup>2</sup>

"[Peabody's] bankruptcy is putting a big question mark around the company's ability to commit to its liabilities"

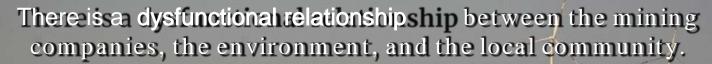
"[MineCos] often **underestimate** the true, full cost of rehabilitation [and]... the standards the community are expecting"

"We see mines placed into care and maintenance where the mining companies can avoid paying out rehabilitation costs"

# Why is this happening?



This problem is exacerbated with small MineCos, who have little experience in rehabilitation, fewer resources, and lower reputation concerns.





# The FRAME Solution

#### FRAME helps restore Australian lands by:



Assuming ownership over rehabilitation liabilities



Implementing concurrent rehabilitation starting from day one of mine operation



**Ensuring compliance** with rehabilitation completion standards <sup>1</sup>





# The FRAME Model

Non - cash value add

Cash flow





MINING COMPANIES

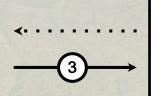




**EQUITY** 

Liquid assets (A)

Mines needing rehabilitation (L)



**CONTRACTORS** 



# Step 1: Raise funds from private investors and partners

- Liaise with federal & local agencies
- Investors put in upfront equity of \$60m





MINING COMPANIES \*---2 ----

**EQUITY** 

Liquid assets (A)

Mines needing rehabilitation (L)



# Step 2: Acquire mines and corresponding liabilities

- Select new mines
- Develop rehab process
- Contract timeline for transfer of liability and cash





MINING COMPANIES



EQUITY

Liquid assets (A)

Mines needing rehabilitation (L)



# Step 3: Subcontract rehabilitation and facilitate monitoring

- Dewater
- Fill & Reshape Land
- Drain & Develop
- Topsoil & Reseed
- Remove infrastructure





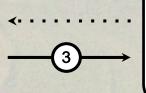
**FRAME** 



**EQUITY** 

Liquid assets (A)

Mines needing rehabilitation (L)





# Step 4: Completion assessment and land reclamation

- Work with government compliance officers
- Assess rehabilitation performance against Mining Operation Plan





**FRAME** 



**EQUITY** 

Liquid assets (A)

Mines needing rehabilitation (L)



# **Step 5:** Investors receive returns from cost savings

 Dividends paid out annually <sup>1</sup>







EQUITY

Liquid assets
(A)

Mines needing rehabilitation
(L)



[1]: Dependent on each mine's remaining liability schedule

# Why is FRAME better than current solutions?

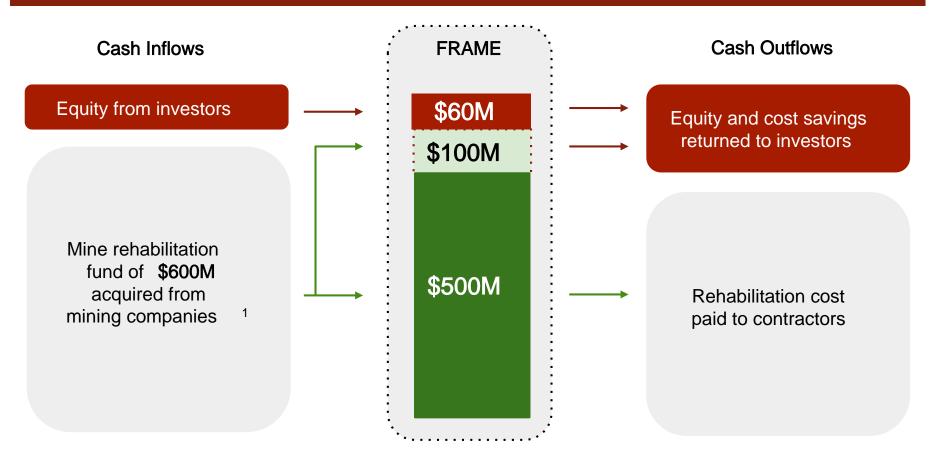
Early partnership with mining companies to contract payments and define rehabilitation process

Diversification of portfolio will reduce exposure to cyclicality, default risk, and overall rehabilitation cost

Onsite FRAME
supervisor at each mine
will monitor operations
and help minimize
footprint

Economies of scale will further reduce costs as a percent of total rehabilitation liability

## Overview of Cash Flows

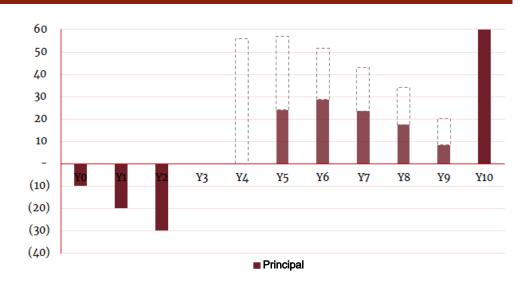


<sup>[1]:</sup> Queensland Government's Mining financial assurance calculator

## Financial Returns & Cash Flows to Investors

#### **Fund Profile**





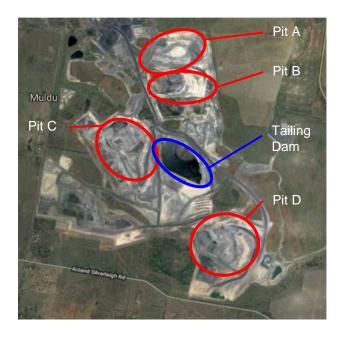
| Cash flow to investors (\$m                    | Yo                   | Y1   | Y2   | Y3 | <b>Y</b> 4 | Y5 | Y6 | ¥7 | Y8 | ¥9 | Y10 |
|--|----------------------|------|------|----|------------|----|----|----|----|----|-----|
| Base-case CF                                   | (10)                 | (20) | (30) | -  | -          | 24 | 29 | 23 | 17 | 8  | 60  |
| Base IRR                                       | 17%                  |      |      |    |            |    |    |    |    |    |     |
| Base Cash-on-Cash                              | 11.2X                |      |      |    |            |    |    |    |    |    |     |
| Upside CF<br>Upside IRR<br>Upside Cash-on-Cash | (10)<br>42%<br>32.2x | (20) | (30) | -  | 56         | 57 | 52 | 43 | 34 | 20 | 60  |

# Investment Criteria & Example ple

#### **Investment Criteria**

- 1. Average mine size of 800 1,200 ha
- MineCos with full rehabilitation included in mining operation plan
- MineCos with fully funded rehabilitation liabilities including the 15% capital buffer as required by Australian regulation
- MineCos must agree to engage with accredited contractors

#### Sample Target: Acland Coal Mine



- 800ha / 4 pits + 1 tailing dam
- Rehab. liability fully funded with buffer

#### Execution Timeline ne **Y1** Y2 Y3 Y4 **Y**6 Y7 Y8 **Y9** Y10 start Government approval Investor roadshows Select mines & contractors Mine 1 Dewatering Excavation & Filling Bulk reshaping Drainage & Development Continued monitoring Topsoiling & Seeding Infrastructure Removal Mines 2, 3

Mines 4, 5, 6

# FRAME has scaling potential in

# Horizontal scaling Other mineral mines ++ *BRICs* ~ 4,000+ mines **Developed Mining Nations** Canada ~ 67 mines South Africa ~ 64 mines Australia ~ 400+ mines

#### Vertical scaling

Post mine closure land investment



Former mine site converted to luxury hotel (Shanghai, China)

# Benefits & Impacts ts

#### **Environmental Benefits**

Revegetation with local flora and restoration of fauna

Decrease number of abandoned mines

#### **Social Benefits**

Realign incentives for land rehabilitation

Job security post - mine closure

#### **Investor Benefits**

IRR of 17% over 10 years

Future investment opportunities in rehabilitated land

#### Mining Co's Benefits

Free up balance sheet for primary business activities

Increase ROA

# Due Diligence e

| Risk Factor          | Mitigation Strategy   |
|----------------------|---|
| Government approval  | <ul> <li>Highlight job creation potential</li> <li>Demonstrate benefits over current processes</li> </ul>   |
| Cost overruns        | <ul> <li>Monitor rehabilitation costs from day one</li> <li>Set contracts to limit exposure to spikes in variable costs</li> </ul>                          |
| High leverage        | <ul> <li>Diversify mine types and geographical locations</li> <li>20% distribution waterfall cushion on top of 15% buffer required by government</li> </ul> |
| Moral hazard         | <ul> <li>Onsite monitoring by FRAME supervisor</li> <li>Contract provisions for periodic review</li> </ul>  |
| Change in regulation | Partnership with government entities  |

## Thank you to our mentors or s

Karen Weigert , former chief sustainability officer for the city of Chicago

Priya Parrish , Managing Partner at Impact Engine

Guillaume Bonnel , Head of Impact Investing at Lombard Odier Investment Managers

Sébastien Gaudu , Energy & Infrastructure Partner at Orrick

Gabriel Santelices , Senior Consultant at MatrixConsulting, focus on Latin American mining projects















#### Sources:

#### Regulation

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#### **Mining Companies**

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## Team



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#### Assessment of Rehabilitation Completion Criteria for Mine Closure Evaluation

