GREEN FUTURE RECLAMATION FUND "GFRF"

The Challenge

The Indonesian government has deployed **more than 10 million hectares of mining field concessions, managed by over 4400 companies**, while this number is expected grows rapidly for the upcoming years. The country requires mining companies to set aside a portion of their budgets for financing the reclamation and rehabilitation of mined land in order to ensure its restoration to its original condition and mitigate detrimental environmental and social impacts. This presents a complex investment challenge for businesses in the mining industry while the **mining companies, particularly for small and medium-sized, see it as a "*burden*" in their later operation stage**. Regulators are complex and subject to change, making it challenging to determine the necessary bond amount. Reclamation costs can also increase over time due to factors such as inflation and additional remediation measures, placing a heavy financial burden on mining companies as they attempt to balance the cost of reclamation against other business objectives and obligations. Along with these financial difficulties, the program also has operational and reputational risks because mining companies are required to adhere to stringent rules and regulations and show their commitment to ethical and sustainable operations. Despite these obstacles, corporate's participation in the reclamation program offers a rare chance to promote ethical and sustainable mining operations and show environmental care.

Investment Thesis

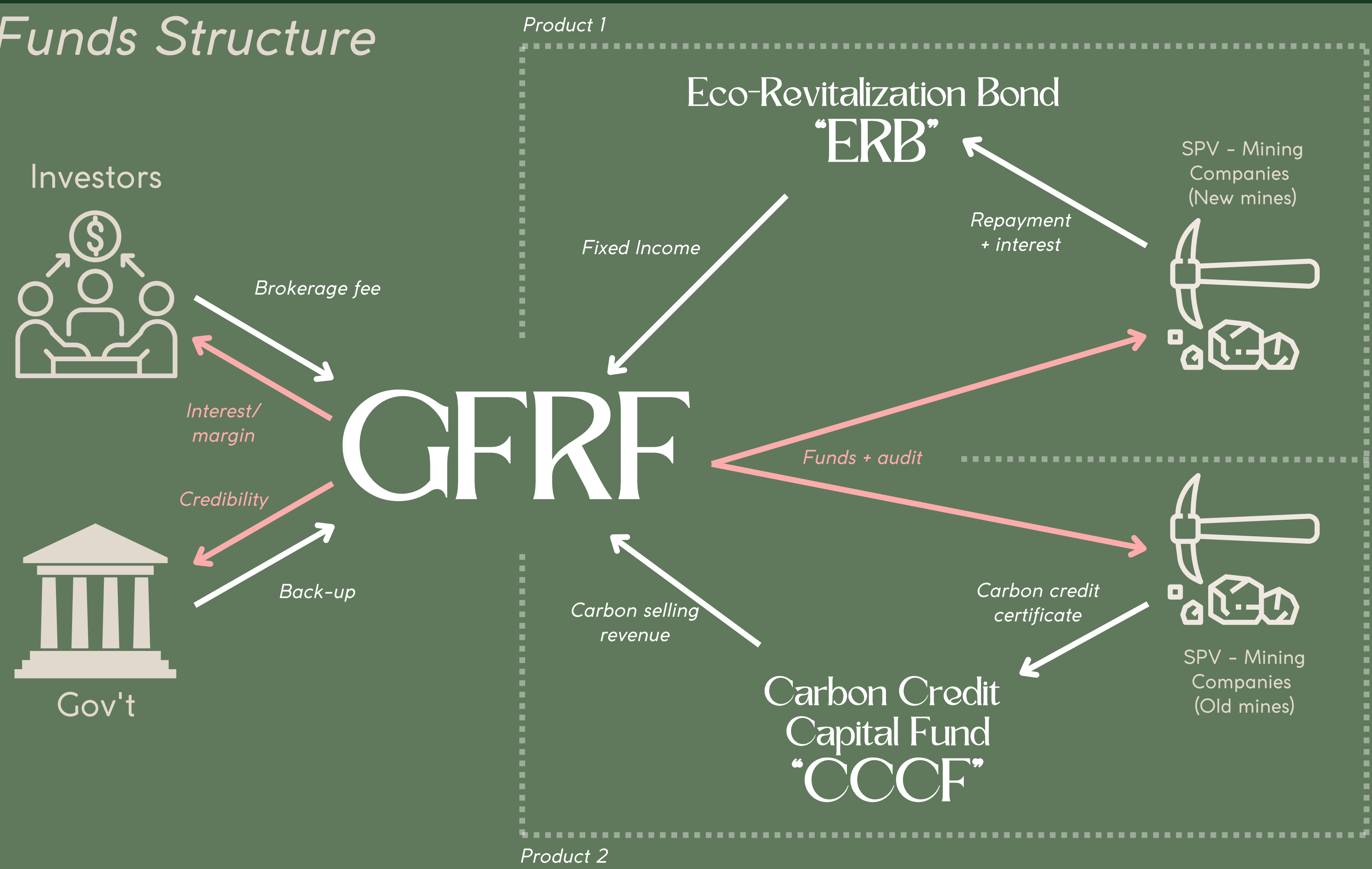
The lack of proper reclamation activities in many mine fields, particularly in developing countries such as Indonesia, has resulted in serious environmental and health hazards. **The current regulation model of requiring mining companies to deposit funds as a guarantee of reclamation has triggered reluctancy on the companies to tie up large sums of money and also insufficient to ensure the realization of land reclamation. The Green Future Reclamation Fund (GFRF) is designed to address this issue and provide a solution that benefits all stakeholders.** Under management of a Special Purpose Vehicle (SPV), this fund offers the government a means to effectively tackle the reclamation problem, leading to a positive environmental impact. The government is also incentivized by the financial benefits, while mining companies are given greater flexibility in managing reclamation costs, and investors can earn returns through bond repayments or carbon credit sales

Solution

The major issue with the current model adopted by countries (and why the success rate has not been impressive) is that it requires companies to tie down funds for a long time.

To solve this problem, we came up with the following: **A Special Purpose Vehicle to operate the Green Future Reclamation Fund (GFRF).** Two products shall be created under this fund in the form of **Bonds and Carbon credit.** Later in this prospectus, the products are known as **Eco-Revitalization Bond (ERB) and Carbon Credit Capital Fund (CCCF).**

Funds Structure



Way to execute: It is important to note that the reclamation shall be supervised by an independent project manager. **The fund disbursement for the reclamation activities shall be done in tranches according to milestones, upon satisfactory review of work done, backed by an advanced payment guarantee from a commercial bank.**

GFRF helps the government in solving the reclamation financial shortage issue as an intermediary between investors, government, and, indeed, the mining companies, especially small and medium-sized companies. The government will be entitled for financial benefits through a retribution. The mining companies are given better flexibility to manage reclamation costs while the investors enjoy returns on their investment through repayments on the bond or sales of carbon credits. GFRF ensure all stakeholders will get adequate benefits through this financing scheme.

How the Funds Work

Product 1: Proceeds available to the mining companies (supervised by the government), constituting fixed income securities, issued as a hybrid of corporate and government bonds. The product is funded through subscriptions by institutional and private investors.

Product 2: Proceeds available to the mining companies (supervised by the government), backed by expected income from reclamation through the generation and sale of carbon credits in the carbon offset market. The product is funded through subscriptions by institutional and private investors.

Process: For Product 1: After land has been disturbed due to mining activities, the mining companies, with the government's backing, issues euro bonds, through an SPV, allowing investors to invest in the reclamation by subscribing to the bonds. The mining company, under the supervision of the government, carries out reclamation and is given time to make repayments on the bond.

Process: For Product 2: After land has been disturbed due to mining activities by the mining company, investors are invited to participate in the reclamation, after which they get returns through sales of carbon credits generated from the reclamation and restoration.

Key Information

Total Addressable Market	**USD 7,6 Billion**	ERB Coupon Maturity	**10 years**	Asset class	**Fixed income instrument (bond) & carbon offset margin**
Total targeted funds	**USD 2,3 Billion**	ERB Interest rate	**9%**		
Addressable new mines	**50k Ha/year**	CCCF Investment Period	**20 years**	Total exp. revenue	**USD 3,1 Billion**
Addressable old mines	**87k Ha**	Exp. CCCF IRR	**~12%**	Brokerage fee	**0,1%**

Assumptions

[1] Targeted market share= 30%; **[2]** Reclamation cost or equal to reclamation reserves value= USD 7.000/hectare; **[3]** Initial carbon credit price= USD 20/$MtCO_2$ (incremental 20% on the 1st 10yrs & 7% on the next 10yrs); **[4]** CO_2 Sequestration of Reclaimed Land= 13 $MtCO_2$/Ha.annum; **[5]** The market determination is shown in USD

Investor Pools

- Institutional investors
- Impact investors
- Endowment/pension funds
- Private investors

Scalability

The Indonesian reclamation bond model can be replicated globally to address the negative social and environmental effects of the mining sector. **Other nations with large mining operations, such as Australia, Africa, and South America, can use the approach,** which incorporates the backing of corporate bonds from mining corporations and transactions in the carbon credit market. The reclamation bond model provides a way to finance the restoration of mined land. These locations confront similar problems in reducing the negative consequences of mining, such as land degradation and environmental contamination. There is a substantial opportunity for businesses to invest in sustainable and responsible mining methods while simultaneously minimizing negative effects on the environment and society because the worldwide market for **mine reclamation is expected to be worth billions of dollars globally.**

Environmental and Social Impacts

1. **Environmental Benefits:** The fund can be used to pay for the reclamation and rehabilitation of mined land, which can help to restore damaged landscapes, stop soil erosion, and stimulate plant growth, thereby enhancing the health and biodiversity of the nearby environment. A research conducted by the Indonesian Ministry of Environment and Forestry discovered that successful restoration of mined land in Sumatra resulted in a 50% increase in the diversity of bird species and a decrease in soil erosion and runoff. This supports **UNSGs 14 and 15** on life in the water and on land, respectively.
2. **Carbon Credits:** The fund can engage in the carbon credit market and make money by selling credits that are used to offset greenhouse gas emissions. This income can be applied to other environmental projects like renewable energy ventures, as well as reclamation and rehabilitation activities. The fund can support **UNSG 13**, Climate Action, by cutting emissions and addressing the global problem of climate change.
3. **Community Benefits:** The fund can assist in reducing harmful effects on nearby communities, such as air and water pollution, soil contamination, and land degradation, by funding the reclamation of mined area. Additionally, by promoting ethical and sustainable mining practices, the fund can assist **UNSG 16** (Peace, Justice, and Strong Institutions) and **UNSG 10** (Reduced Inequalities) by fostering positive connections and trust between mining firms and local people.
4. **Financial Gains:** The fund can make more money by participating in the carbon credit market. This extra money can be utilized to pay bondholders a return on their investment and to fund ongoing reclamation and rehabilitation operations. As a result, the mining sector in Indonesia may flourish and contribute to the realization of **UNSG 8**: Decent Work and Economic Growth & **UNSG 17**: Partnership for The Goals.

Risk Metrics

Elements of Risk	Probability	Impact	Mitigation
Forest Damage	MEDIUM	HIGH	Collaborate with the Government to back up worst case or open an insurance option to cover any unforeseen damage particularly natural disaster occurrence
Currency Risk	HIGH	MEDIUM	The capital will be raised and disbursed in US Dollar through issuing Eurobonds, to reduce the risk of devaluation thrrough currency conversion
Carbon Price Fluctuation	HIGH	HIGH	Depending on the carbon credit market globally, longer-term agreements can be signed with investors through a futures contract
Political & Regulatory Changes	MEDIUM	MEDIUM	To collaborate with the Government for long-term agreements to safegaurd future transactions
Inability to generate carbon credits	LOW	HIGH	Confirm the carbon sequestration valuation and eligibility according to the Gold Standard before reclamation. CCCF is also focused on old abandoned mines, where generating carbon credits is more practical.
Execution risk	MEDIUM	MEDIUM	The Fund will appoint a Project Manager to supervise reclamation activities, and the disbursement of the fund to the contractors shall be according to satisfactory review of milestones backed by an advanced payment guarantee by the contractors bank
Cost Overrun	MEDIUM	HIGH	To use financial tools such as hedging to reduce risk of increase in expense of reclamation activities, such as personnel, equipment and materials costs.