

Kellogg-Morgan Stanley Sustainable Investing Challenge

Greenfill Trust by Garbageless Vortex

Galvanising opportunity investment to say N O to plastic garbage patch through landfill REIT

Challenge

Amtcor, Borealis, Danone, H&M, Mars, Nestlé, PepsiCo, Tesco, The Coca-Cola Company, Starbucks, Unilever, and Woolworths, these are some names that have backed the call, through a business manifesto, for the United Nations to write a global treaty to control Plastic Trash around the world. This urgent need of amplification of current efforts was called upon as an alarming rate of plastic waste continues – with the United States generating more than 35 million tons of plastic waste each year with low recycling rates. More than 75% of these plastic wastes end up simply in landfills as material recovery facilities are ill-equipped or have very little incentive to improve upon plastic waste recycling metrics. Hence, devising a mechanism for firm to hedge the risk can harness the power of finance into the fight against plastic trash in the present, when it is most needed.

Solution & Impact

Our innovative solution leverages on the current widely used landfills as the underlying asset, providing a way to securitise the unwanted land and provide asset enhancement initiatives.

Our instrument behaves like a REIT that has an underlying of essentially cheaper and unwanted land. We will then securitize this and issue the land to the public. Money is raised through an IPO and would also fund other purchases to pool our landfills.

Our source of revenue is a twofold concept:

- ①. “Rental” - the rate we are charging companies to dispose their waste in our landfill. Due to land scarcity, the rate at of charge will increase with waste level – Tranching concept.
- ②. Recycling – segregation of waste (available in specific areas) would allow an easier recycling process. This cost saving would be translated into an additional income and distributed as (a) dividends to our shareholders, and (b) taken as research and development (“R&D”) cost to devise a mechanism for advanced and effective recycling facilities.

While this instrument is not as complex as a typical retail/commercial REIT, some management is still required for the recycling process. The property manager would receive management fees from the REIT. Other costs involved with managing the landfill would be deducted before distributing the net income as dividends to unitholders.

High Potential for Scaling

United States is only the beginning. Similarities in plastic waste problem is also experienced across the globe. Using an iterate-and-proliferate approach, we estimate that with the support of other regions, companies would benefit from a cheaper cost of raw materials in the form of recycled by products, from the refined waste which was initially provided. An active Environmental Social and Governance (“ESG”)-centric image is beneficial to enterprises and those who corroborate with the process enables them to further the ESG agenda by being a first mover in this unique offering. Investors who want a sustainable cash flow from the underlying REIT can potentially realise this as waste production is inelastic in supply and is agnostic to economic cycles. This funding mechanism has further potential to enhance plastic waste management facilities, creating higher returns and tangibly benefitting society.

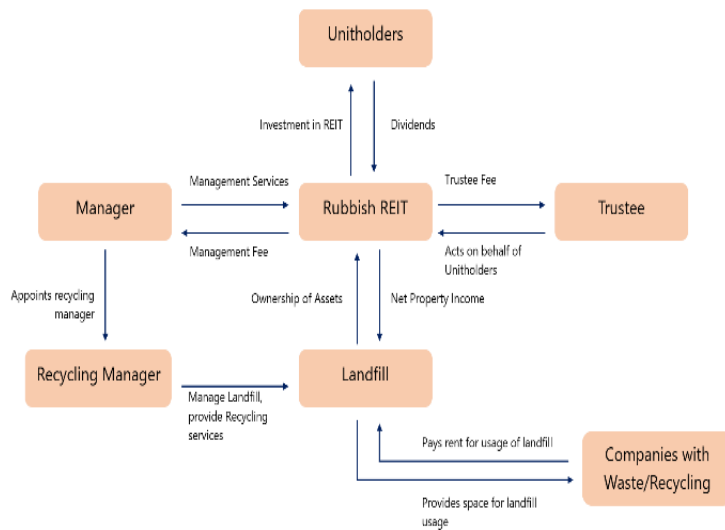
Key Details

Fund Size	<ul style="list-style-type: none">• USD 350m (Land + Equipment)• Remaining profits that are not distributed as dividends may be use for reinvestment into new land space
Target Return (IRR)	<ul style="list-style-type: none">• 21% net of management fees
Fees	<ul style="list-style-type: none">• 0.25% base fee, not inclusive of fees such as Investment/Divestment and Performance Fees• Fees take on an average 6% of revenue for REITS
Geography	<ul style="list-style-type: none">• Start in the US due to a developed REIT industry and recycling habits
Target Investors	<ul style="list-style-type: none">• All types of bond investors, especially those facing high plastic waste disposal in their daily operations and supply chains or new recycling technologies.• All equity investors in search of both global and local sustainable solutions, for e.g., university endowment, private equities, waste management companies.• Governments, who are in search of waste management and carbon footprint reduction.
Asset Class	<ul style="list-style-type: none">• Listed Equity, with option for Private Equity
Tenor	<ul style="list-style-type: none">• Perpetual
Metrics for Impact	<ul style="list-style-type: none">• Reduction in plastic waste• More advanced technologies in recycling and decomposition
Risk Factors	<ul style="list-style-type: none">• <i>See Due diligence section</i>
Future	<ul style="list-style-type: none">• As the NPV decreases with the increased usage of our land, it may seem that our landfill may have no value after it is completely filled in approximately 11 years. But with in-house R&D, better recycling technologies and decomposition mechanism

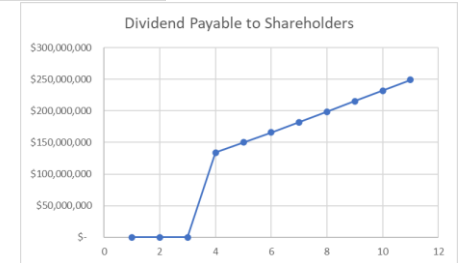
Fund Assumption

We have done a simple Free Cash Flow from Operations analysis based on several assumptions. Using the size of an average landfill of about 660 Acres, and the approximate land cost in the US being \$1360 per acre, we have an initial investment of \$1,896,000. We used EPA’s suggested proposal for an investment of \$333,000,000 into a waste management facility along with the operating cost of \$99,900,000 per year. With regards to the operations of the facility, we have assumed a capacity of 30m height, giving us a capacity of over 64 million tons. Using the tipping fee of \$55.36 as well as an average revenue we would receive from the amount of plastics we recycle; we get the revenue per year for our funds to distribute to investors.

Fund Diagram



Cashflow Projection



Cashflow Analysis

We generate revenue from two income streams: (1) “Disposal revenue”- income received from “renting” our land for disposal, and (2) Recycling – segregated waste allows for easier recycling process for sale to companies to reuse. On the cost management, a recycling manager, whom we pay fees to, is required to manage our landfill and recycling plant. They would oversee the utility optimisation of the landfill and R&D services for devising advanced and effective recycling facilities.

Investing into the land would provide positive NPV, but this would eventually decline as the landfill will be filled up with non-decomposable, organic waste. A cyclical effect kicks in with the decomposition effect, and the availability of land would slowly increase again, increasing the NPV of the land. This would then be re-use to accept new waste and continue the distribution of income to our shareholders. In addition, we foresee that with our in-house R&D improved technology, solutions can be found to enhance the lifespan of the landfill through faster recycling methods, and/or discovery of more recyclable materials, and/or simply increasing the rate of decomposition. This would potentially help to recover more value for our shareholders.

We have a negative net income, which also indicates negative cash flow for the first three years as we are setting up the recycling plant as well as purchasing the land, subsequently, we would have positive cash flows. While our cash flow analysis indicates that we have positive cash flows for 8 years, there may reach a point when cashflow may fall negative when the landfills are completely filled. To ensure the sustainability of positive cashflows, there are a few options we could explore: (a) Buying more land in the neighbouring space to increase capacity while waiting for the decomposition of waste, and/or (b) Cash reserve for distribution during the decomposing years.

Due Diligence

Risk	Mitigation Strategy
<u>Governance</u> <ul style="list-style-type: none"> Companies are not willing to follow proper waste disposal procedures 	<ul style="list-style-type: none"> Provide business convenience and cost leadership strategy, promote enabling partner companies to be part of the ESG movement. Active engagement and partnership of industry and regulators to promote ESG activism. Logistical agreements and target operating models put into place.
<u>Environmental</u> <ul style="list-style-type: none"> Ecosystem 	<ul style="list-style-type: none"> Land use must be studied by ecologists to minimize ecosystem impacts. Advocacy of best practices for usage of land while conducting operations in a carbon neutral, ecologically sustainable way.
<u>Operational / Technological</u> <ul style="list-style-type: none"> Technology for waste disposal and recycling is costly Lack of on-the-ground know-how Variability in local conditions 	<ul style="list-style-type: none"> Help investors and partner companies realise the value that they can unlock when playing a part to promote a sustainable future. By products of recycling which can be used as raw materials can be sold as offerings to companies at a discount Ensure good integration and ease adaption to local conditions by leveraging community experts in each implementation region.
<u>Credit</u> <ul style="list-style-type: none"> Cost structure of initial investment 	<ul style="list-style-type: none"> To raise capital, ESG activism needs to be promoted to potential investors, who view this as an innovative alternative real estate class of investments. REIT like structure keeps taxes low and provides stable dividend yield to investors. Tranching of securities provides for greater returns for investors in Recycling Technology and its Byproducts (HY tranche) versus Rental yield only (IG tranche).