



Afrovax REIT

A cold storage REIT to reduce vaccine wastage and increase vaccination rates in Africa

Investment Thesis

Afrovax REIT is the first investment solution that addresses the lack of cold storage facilities for vaccine storage in Sub-Saharan Africa. The REIT will involve three financial products targeting the investment and operation of cold storage facilities: (a) shares to be issued to institutional investors, (b) sustainability-linked bond to be issued to institutional investors, and (c) a sustainability-linked FX derivative with a bank counterparty to hedge FX risk faced by both institutional investors and the REIT. Non-compliance with the sustainability performance targets will result in higher interest payments to institutional investors (in the case of the bond) and acceptance of FX risk (in the case of the FX derivative).

Problem Statement & Opportunity

- Annually, approximately 30 million African children under the age of 5 fall sick from the following vaccine preventable diseases (VPDs), including measles, diphtheria, tetanus, pertussis, tuberculosis and yellow fever.
- Africa's Logistics Performance Index (LPI), which measures performance on logistics supporting the cross-border physical movement of goods, is at 2.5 out of 5, trailing all major regions in the relevant performance categories. Because of government and private sector inability to fund and maintain cold chain infrastructure, over a third of vaccines expire.
- Only 22 of 54 African countries have a working cold-chain system for vaccines requiring storage at 2 to 8°C. The biggest challenges in vaccination programs relate to logistics: (a) inadequate storage due to lack of warehouses, (b) expiry of vaccines in areas where electricity is often unavailable or unreliable, and (c) people travelling for miles to reach the vaccination centers within the coverage range of cold storage facilities.
- Little investment has been done to improve the supply chain gap, despite evidence of an increasing rate of VPDs across Africa. In 2022, for example, measles cases have soared 400% relative to last year.
- Addressing the supply chain infrastructure gap is paramount to solving the "last mile" in Africa's universal immunization agenda. By ensuring an adequate number of solar-powered cold storage facilities, this logistical gap can be effectively addressed.
- Innovative food cold-storage facilities, which will be invested by the Afrovax REIT, operate at the same temperature required by vaccines for the mentioned VPDs. Investing in such facilities, where storage for vaccine and food will be safely segregated under standardised operating procedures, will help to address the gap. The use of such facilities will be diversified, such that they can both be safely used for vaccine storage and food storage facilities to ensure financial sustainability.

Financial Solution Description

The Afrovax REIT will invest in converting existing warehouses in Sub-Saharan Africa into vaccine-grade cold-storage facilities. The REIT's conditions are:

- the warehouses must be located in remote, but economically feasible, areas.
- 30% of the storage space must give priority to vaccine storage with the maximum rental discount of 10% to market rate.

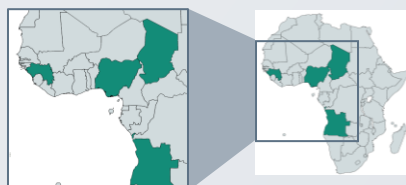
REIT investment and operation will be funded by common shares (\$70mn) and sustainability-linked bond (\$50mn).

- Common shares:** Unitholders will receive dividends.
- Sustainability-linked bond:** Bond investors will receive interest payment from the cold storage REIT. The interest rate will be fixed at 11% per annum if sustainability performance target (SPT) is met. If the goal is not reached, the interest rate will rise per the bond's term.
- FX derivative:** To remove FX risk, the REIT will enter a sustainability-linked FX contract with a bank. The bank will hedge the REIT's distribution in foreign currencies against the USD so unitholders will not face FX risk. If the SPT is not achieved, FX risk will have to be accepted.

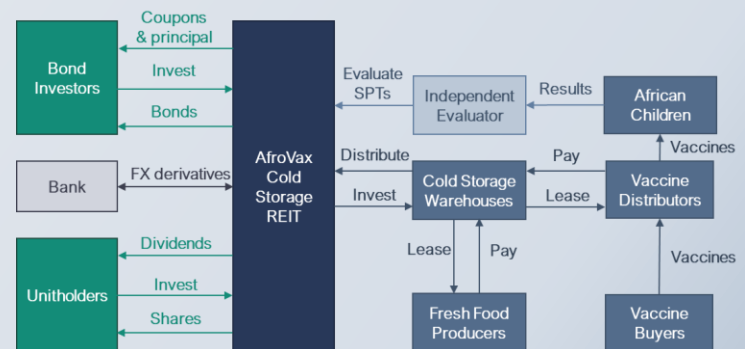
Target Geography

Initially, we will focus on four African countries with some of the lowest overall vaccination rates, and then expand to more places.

- Angola (40%)
- Guinea (50%)
- Chad (57%)
- Nigeria (59%)



Financial Solution Diagram



Target Investors & Incentives

Product	Target Investors	Incentives
Afrovax REIT Shares	U.S. Institutional investors	- Capital gain - Dividends
Sustainability-Linked Bond	U.S. Institutional investors	- Interest income
FX Derivative	Bank	- FX gain

Potential Partners

Charities:

Investors:

Asset acquisition targets:

Afrovax REIT	
Issued shares	10,000,000
Target raised fund	\$70 million
Issuance fee	5% of total size
Use of proceed	Acquisition of cold storage warehouses in remote areas of targeted African countries
Scope of investment	(i) Green certified warehouse, (ii) At least 70% usage of solar energy, (iii) Built in remote area in Africa, (iv) 30% of storage space must give priority to vaccine
Distribution policy	At least 90% of REIT annual taxable income
Potential listed exchange	NYSE and NASDAQ

Cold Storage REIT Sustainability-Linked Bond Term	
Aggregate Nominal amount	\$50 million
Type	Senior, Unsecured bond (Sustainability-Linked Bond)
Tenor	5 years
Interest rate	An interest rate of 11% per annum must be paid if the REIT meets SPT but if it fails, it will pay higher interest expense by 25 bps per 15% difference from storage target
Issuance fee	3% of total size
Bond covenants	Debt to equity not exceeding 2.5x and negative pledge
Use of proceed	To build cold storage warehouse in remote areas of targeted African countries
SPT	At least 30% of storage space must be occupied by vaccine
External review	Appointed independent evaluator to conduct annual evaluation

REIT Cash Flow Projection

Assumptions	
Number of cold storage warehouses	55
Total size	3.5 mn square feet
Number of pallets (thousands)	460
Average rent revenue per pallet per year	\$80
Average occupancy rate	85%
Average rental growth rate	3.5% per annum
Service revenue	20% of rental revenue
Operating margin	20.0%
REIT management fee	0.75% of asset value
Trustee fee	0.75% of asset value

CF Projection (in USD, thousands)	Year 1	Year 2	Year 3	Year 4	Year 5
Rental revenue	33,120	34,279	35,479	36,721	38,006
Service revenue	6,624	6,856	7,096	7,344	7,601
Total revenue	39,744	41,135	42,575	44,065	45,607
Operating exp.	(31,795)	(32,908)	(34,060)	(35,252)	(36,486)
Operating income	7,949	8,227	8,515	8,813	9,121
Interest expense	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)
Taxable income	2,449	2,727	3,015	3,313	3,621
Distribution (90%)	2,204	2,454	2,713	2,982	3,259
DPU	0.22	0.25	0.27	0.30	0.33
IRR	22%				

Scalability & Impact





	Market size (2020)	7-year CAGR Growth
African cold storage market	\$4.1 billion	13.8%
Vaccine market in Africa	\$1.3 billion	11.8%

In the first phase, we plan to raise \$120 million from bond and share issuance to finance the REIT, contributing to a 10% increase in targeted countries' vaccine storage space. If share and bond subscription reaches the first phase's target, we will expand to the second phase (5 years after the first phase) issuing an extra \$100 million in shares and bond. In this later phase, we will build also new cold storage facilities in areas with vaccine demand but no acquirable assets, aiming to reduce vaccine wastage in targeted areas by 15% the next 10 years.

Risk & Mitigation Strategy

- **Foreign Currency Risk** – Enter into sustainability-linked derivatives for currency hedging against African currency fluctuations to USD
- **Political Risk** – Target country selection and working with GAVI rather than directly with government entities
- **Monitoring Risk** - Review of cold storage operations annually by third-party auditor to ensure compliance with the REIT's SPTs
- **Business Risk** – Diversify the cold storage facility purpose, allowing use for fresh food and vaccine storage, therefore maximizing revenue opportunity
- **Investment Risk** – Robust due diligence process to identify and invest in cold storages, partnering with companies with track record in running cold storage in the region
- **Impact Risk** - To ensure targeted use of the storage facilities to address VPDs, use data from partner agencies (i.e., WHO) to ensure that the most in need receive the vaccine

Impacts on SDG Metrics in Targeted Geographies

Health	
	<ul style="list-style-type: none"> • The percentage of children that have received their vaccinations in Africa • Reduction in disease cases, hospitalization and death caused by vaccine-preventable diseases in Africa
Infrastructure	
	<ul style="list-style-type: none"> • Increase in amount of cold storage space made available for storing vaccines in Africa • Increase in number of cold storage warehouses in remote area in Africa
Financing	
	<ul style="list-style-type: none"> • Increase in investment in Africa (developing countries)
Food Waste	
	<ul style="list-style-type: none"> • Reduction in food wastage rate (from increased cold storage facility for fresh food) in Africa