



HIV FIGHTER FUND

VERA ZHENG, RACHEL MACKAY, NEHA GOEL & EMMANUEL ADU-DARKO

Kellogg-Morgan Stanley Sustainable Investing Challenge, April 2023

OUR TEAM



Vera Zheng

Vera is 2nd year MBA student at Kellogg and a recent intern at Public Health Institute, where she worked on a USAID-sponsored project aimed at reducing HIV risk in Sub-Saharan Africa.

Prior to her current role, Vera had years of experience across banking and private equity.

With her passion for social impact and experience, Vera aims to align financial incentives with ESG causes.



Rachel MacKay

Rachel is 2nd year MBA student at Kellogg and a recent strategy intern at DVx Loop, a startup that provides equitable, convenient and affordable parenting experience for their members.

Previously, Rachel worked in strategy consulting across M&E, Nonprofits, and the Public Sector.

Rachel has strong passion for social impact & sustainability and looks to use her expertise to drive value to clients and society.



Neha Goel

Neha is final year MBA student at Kellogg and a Senior Engineer at Microsoft Healthcare, where she leverages the endless prowess of cloud-based AI to drive innovation and improve patient outcomes.

Boasting 11+ years of tech industry experience, Neha is a co-founder of medical device company.

Neha considers herself an AI and impact evangelist with a strong faith in the limitless potential of AI to solve social problems.



Emmanuel Adu-Darko

Emmanuel is 2nd year MBA student at Kellogg and a recent strategy consulting intern at BCG, where he advised a large financial institution on how to create a digital transformation strategy.

Emmanuel has worked in portfolio analytics, and small business and mortgage banking.

With a passion for economics and social impact, Emmanuel aims to provide effective market solutions to complex social problems.

PROBLEM

Imbalance between local demand and local supply of HIV drugs in Sub-Saharan Africa (“SSA”).



15% of global population

90%
of drugs imported

25.6M

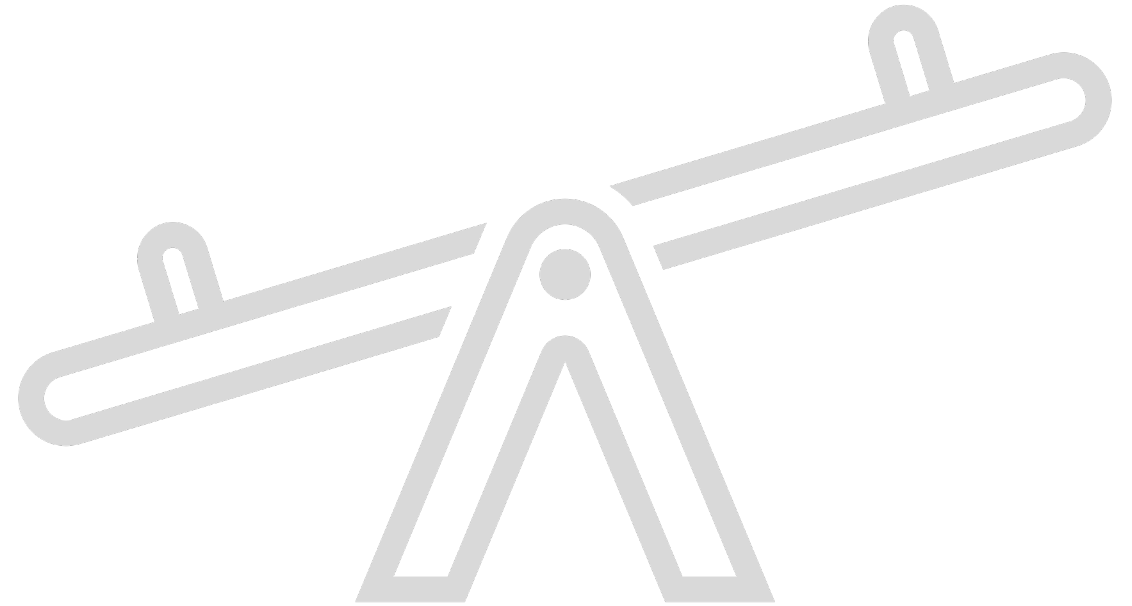


67% of global HIV population

0.86M



57% of new infections





PRESS RELEASE

The cost of inaction: COVID-19-related service disruptions could cause hundreds of thousands of extra deaths from HIV

THE IMBALANCE RESTRICTS LOCAL COMMUNITY'S STABLE ACCESS TO HIV DRUGS

OPPORTUNITY

Growth of global attention & improved local conditions generate opportunity.

[Home](#) > [The United States President's Emergency Plan for AIDS Relief](#) > PEPFAR sets bold manufacturing targets for Africa

★ ★ ★

PEPFAR sets bold manufacturing targets for Africa

PEPFAR RELEASE

DECEMBER 13, 2022

Pfizer and BioNTech Announce Collaboration With
Biovac to Manufacture and Distribute COVID-19 Vaccine
Doses Within Africa

Wednesday, July 21, 2021 - 07:15am

SOLUTION

Catalyze local manufacturing of HIV drugs in Sub-Saharan Africa to capture growing demand.

Joint Venture with Global Pharma



	Formula	Tech	Skilled Labor	Qty Perception	Distribution Network	Local Network
<i>W/out Global Pharma</i>	✗	✗	✗	✓	✓	✓
<i>W/out Local Manufacturer</i>	✓	✓	✓	✗	✗	✗
<i>With a Joint Venture</i>	✓	✓	✓	✓	✓	✓

Benefits of Joint Venture

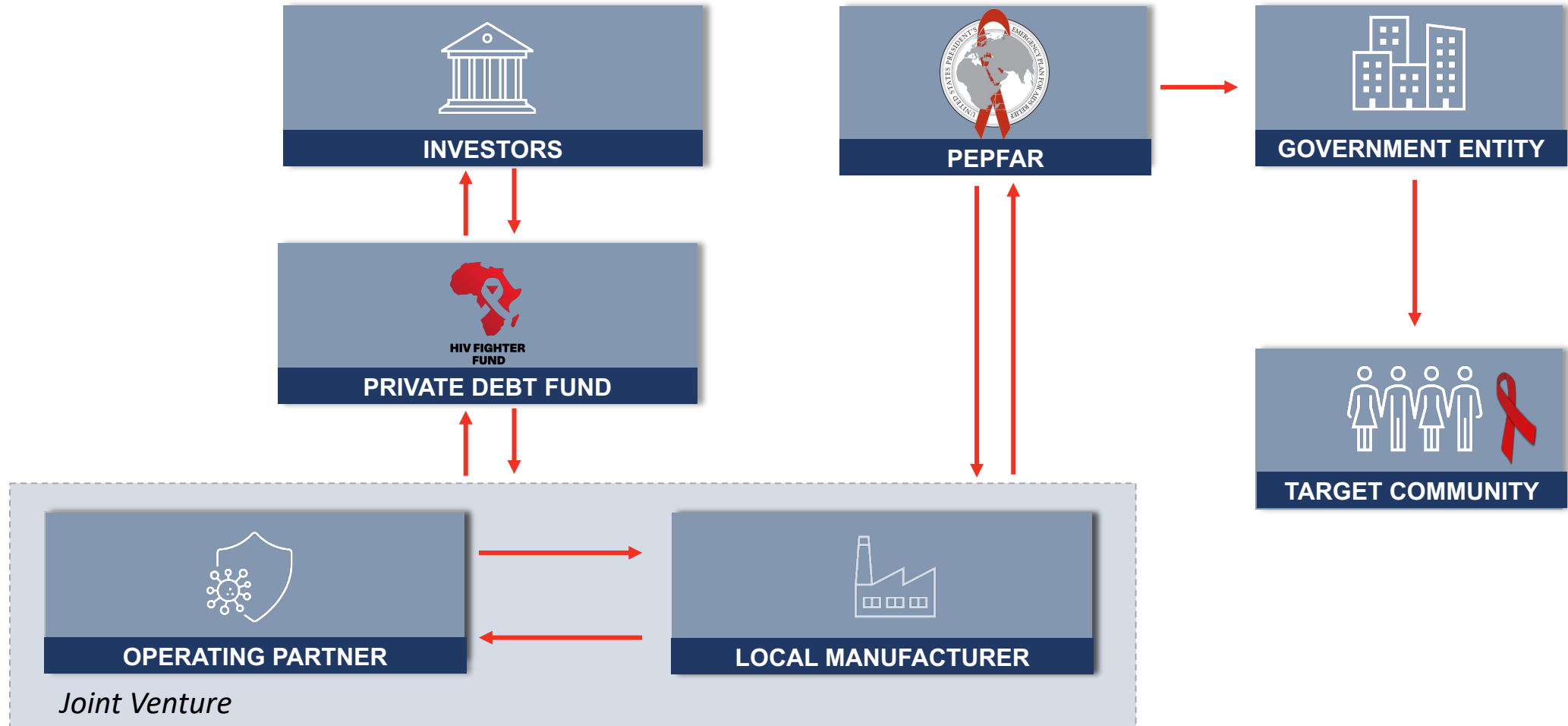
- Tech and knowledge transfer for quick scaling
- De-risk global pharma entry
- Global pharma payout

Target HIV Drug: Tenofovir

- Generic first-line HIV drug
- 30-day pill packs
- Also treats Hepatitis B
- Established treatment across Sub-Saharan Africa

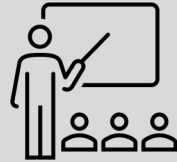
BUSINESS MODEL

Use debt funding to catalyze local HIV manufacturing in Sub-Saharan Africa.

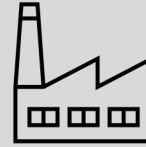


CAPE TOWN, SOUTH AFRICA: PILOT TARGET

Why?



TOP TALENT



MANUFACTURERS



GOVERNMENT
SUPPORT



INSULATION FROM
BLACKOUTS



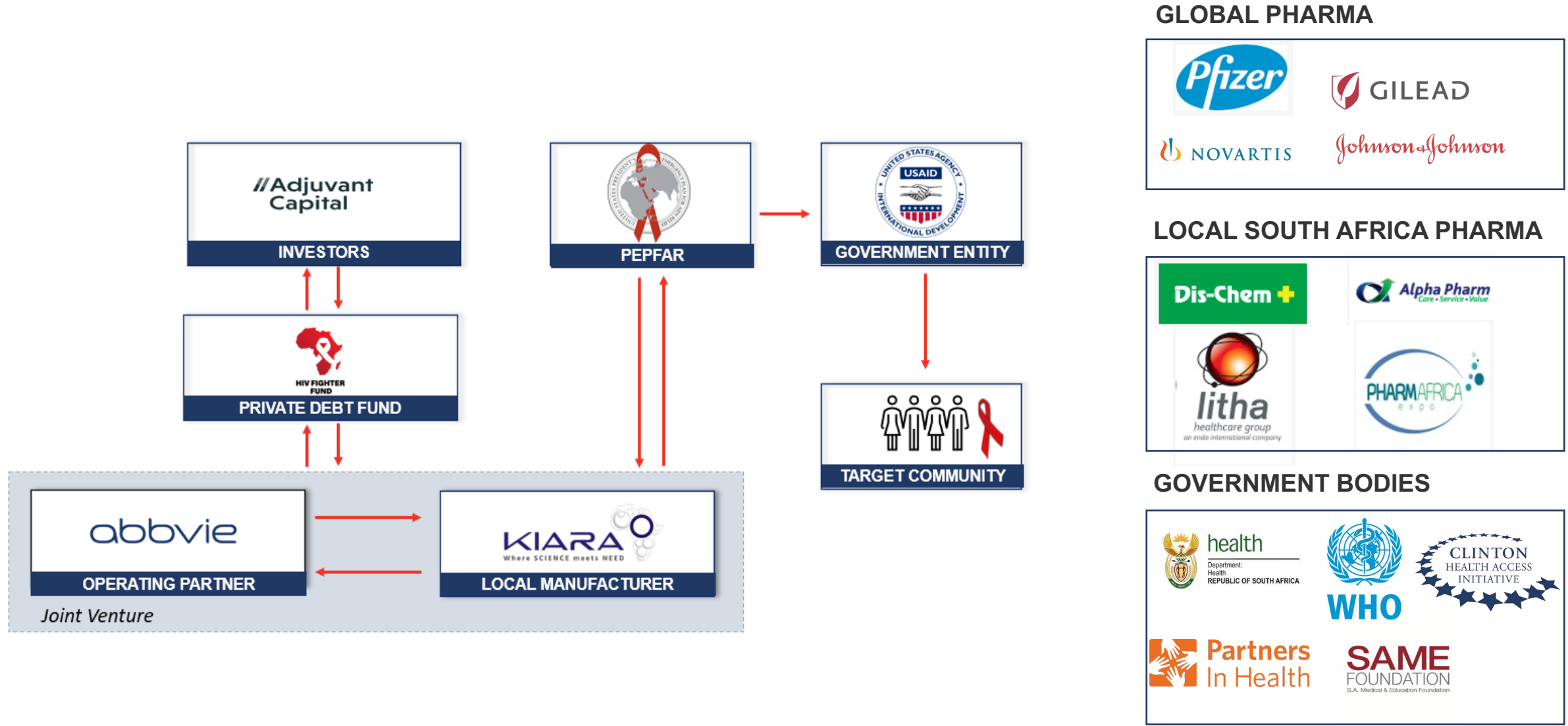
EXISTING
INFRASTRUCTURE



LARGE IMPACT
POTENTIAL

POTENTIAL STAKEHOLDER PARTNERSHIPS

Our team has received support and interest from potential partners in the proposed model.



TARGET INVESTORS

Three categories of targeted investors, received potential interest from a few

Multilateral Development Banks



Impact Investors



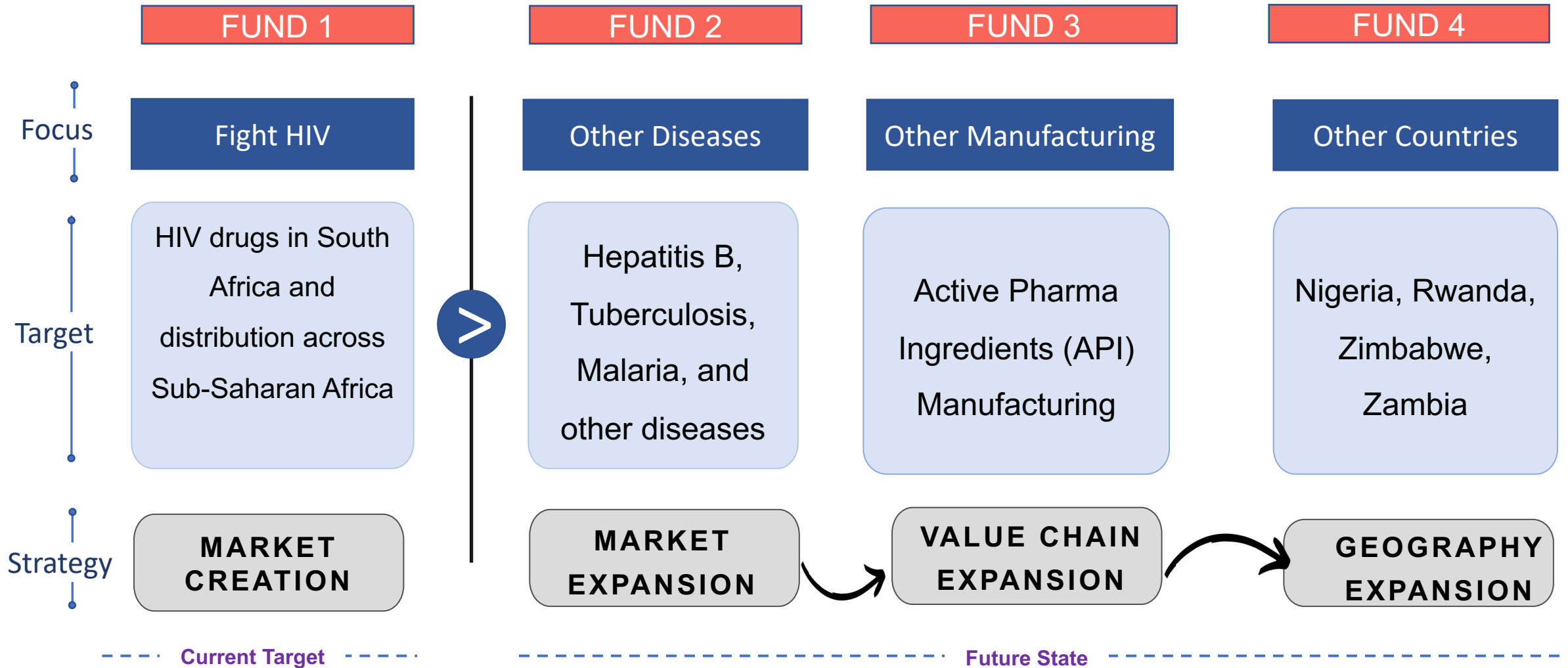
//Adjuvant
Capital

Foundations




SCALING STRATEGY

Reusing the business model to scale to other markets, value chain and geography



IMPACT MEASUREMENT

Measuring the total impact beyond financial and monitoring SDG growth through KPI's

<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>KPI : # of HIV patients treated # of new HIV patients \$ of HIV drug sales</p>
<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 	<p>KPI : \$ of GDP created # of Imports work related accidents # of jobs created</p>
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>KPI : % of pharma growth. # of local manufacturers scaled Logistics Performance Index</p>
<p>17 PARTNERSHIPS FOR THE GOALS</p> 	<p>KPI : # of Multi stakeholder partnerships</p>



RISKS & MITIGATION

Mitigating risks both in current and future scaled targets



INFRASTRUCTURE & DISTRIBUTION

- Install solar panels & generators for electricity shortage
- Invest in Refrigerators for drug storage during distribution



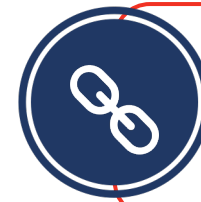
POLITICAL & REGULATION

- Monitor government & regulation policy changes
- Expand & diversify outtakes partnership beyond PEPFAR



FINANCIAL & CURRENCY

- Issuing bonds, de-risk the currency fluctuation
- Expand partnerships to other countries: EU, India



SUPPLY CHAIN

- Leverage PMPA pooled procurement mechanism and AfCTA to strengthen local supply chain, market distribution and trade

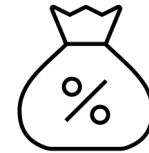
FUND SUMMARY



FUND INVESTMENT PROFILE

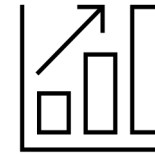
Fund Type	Single-Asset Debt Fund
Investment Geography	Sub-Saharan Africa
Fund Size	\$81.0 Million
Fund Life	10 Years
Security Type	Convertible Note
Fees	2% Management Fee
Collateral	Investments are secured by drug manufacturing plant

INVESTOR PROFILE



8.8% IRR

Net of fees

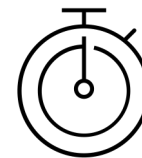


2.1x MOIC



\$5 Million

Minimum ticket size



10 Years

Investment period

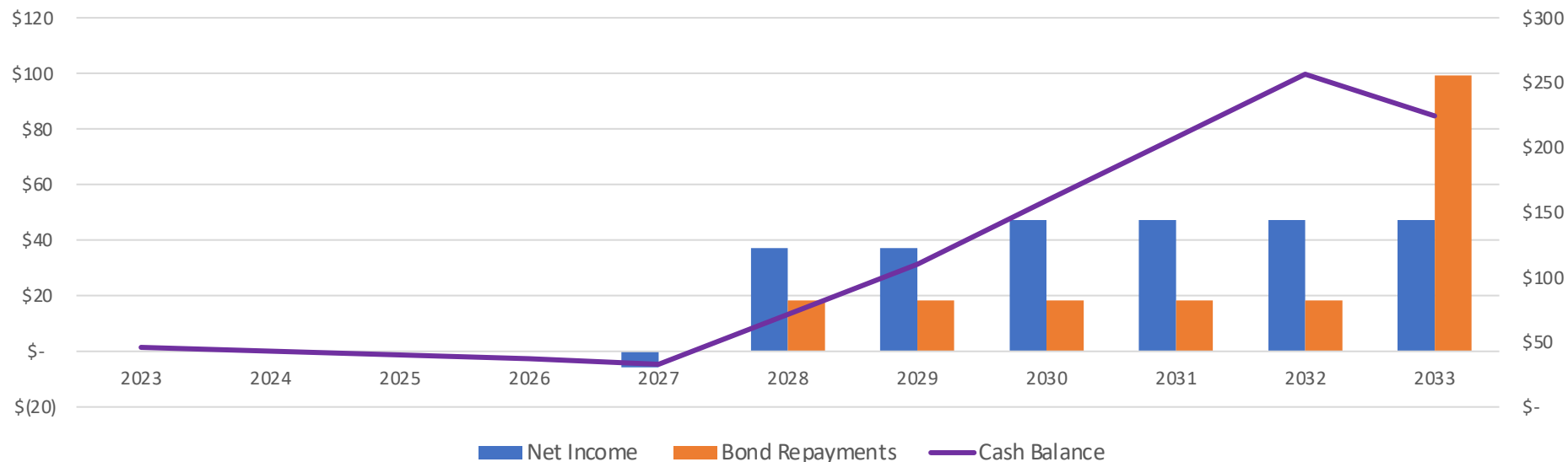


Conversion
Conditions

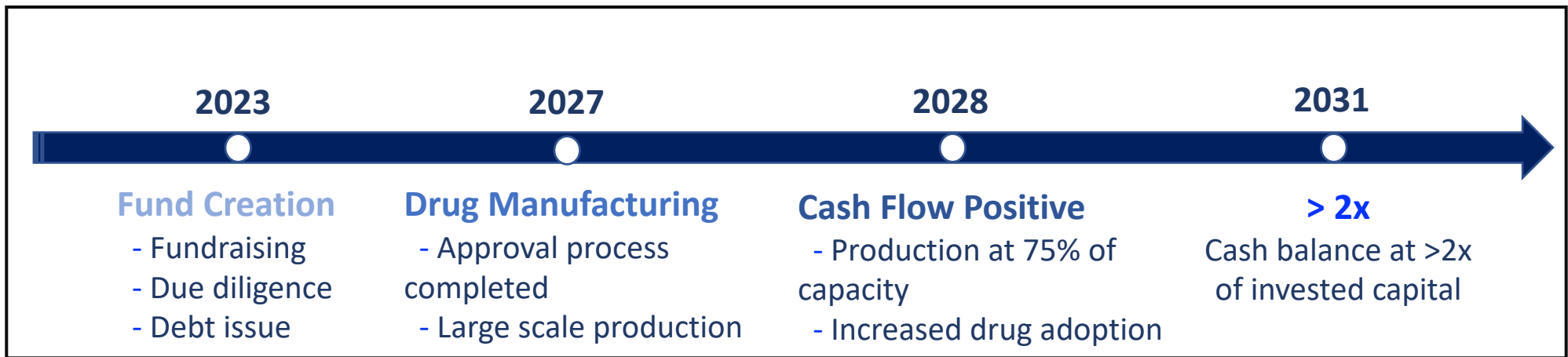
Our fund strategy is to focus on leveraging our network of key stakeholders to create value for both the joint venture and investors by expediting legal and regulatory processes for the former and minimizing risk for the latter through thorough due diligence and coupon payments.

CASH BALANCE STAYS POSITIVE THROUGHOUT INVESTMENT LIFECYCLE

Net Income & Cash Balance on Portfolio Investment (In Millions)

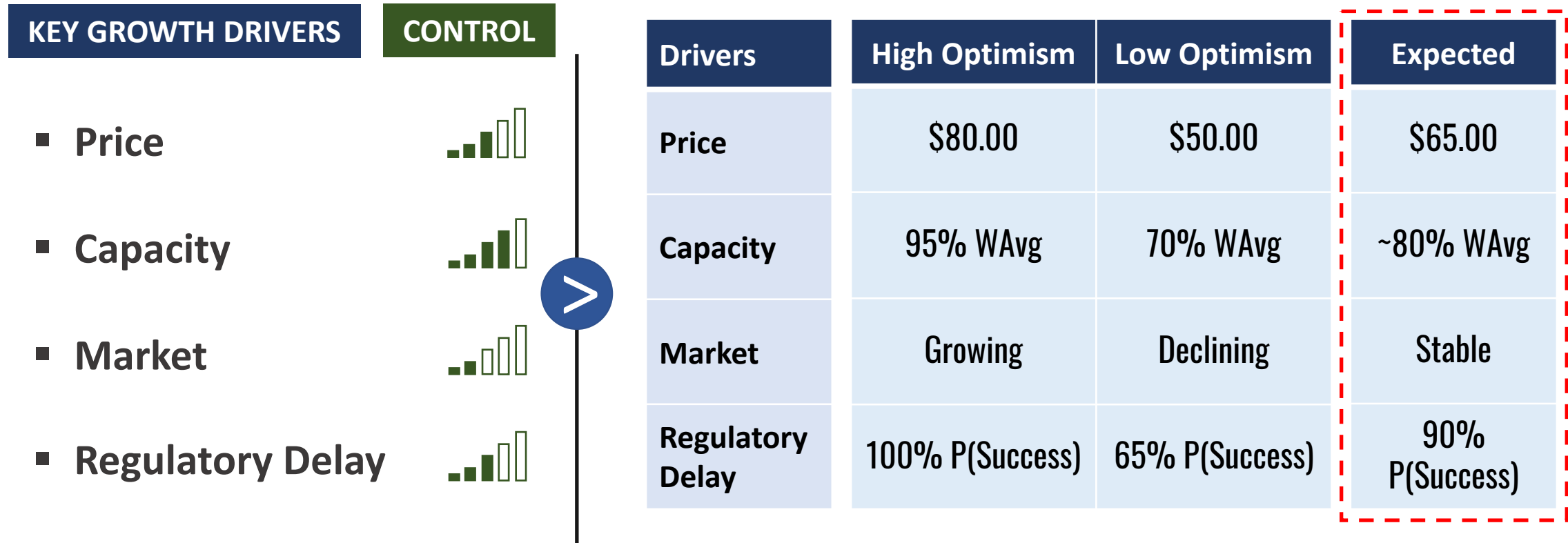


CASH FLOWS



SENSITIVITY ANALYSIS

Revenue and income growth assumptions show robustness across different scenarios



- ▶ We expect a stable inflation-adj. price regardless of the increased production in Africa due to shift in procurement
- ▶ To ensure a conservative view, we disregard the positive CAGR of the HIV drug market in SSA
- ▶ We expect a relatively smooth regulatory and cross-border process due to influence from PEPFAR and USAID

THANK YOU



**HIV FIGHTER
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APPENDIX

EXPERTS & ADVISORS

- David Chen, Equilibrium Capital & Kellogg School of Management
- Mark Giambrone, PEPFAR
- Elijah Kahn-Woods & Dipa Sharif-Ahmed & Douglas Thornton, USAID
- Dr. Skhumbuzo Ngozwana, Kiara Health
- Stephanie Vak-Stephens, IFC
- Dr. Richard Gordon, South African Medical Research Council
- Dr. Hannes Malan, Chemical Process Technologies (Pty) Ltd (South Africa)
- Robert Dinruff, Abbott Labs
- Becca Kirby, NEST360
- Aum Thacker, TLG Capital
- Jenny Yip, Adjuvant Capital
- Victor Moyo, OncoPep Inc.
- Patrick Hodgins, Renewable Resources Group
- Dr. Margaret Ilomuanya, University of Lagos
- Bethany Young Holt, Public Health Institute
- Mary Weitzel, Yaso Therapeutics Inc
- Kara Palamountain, Kellogg School of Management





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PROFORMA STATEMENTS

Operating Assumptions:													
Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
Production:													
Fixed cost					\$ 15.0	\$ 15.0	\$ 15.0	\$ 15.0	\$ 15.0	\$ 15.0	\$ 15.0		
Variable cost per unit					\$ 0.000001	\$ 0.000001	\$ 0.000001	\$ 0.000001	\$ 0.000001	\$ 0.000001	\$ 0.000001		
Variable cost					\$ 0.5	\$ 2.1	\$ 2.1	\$ 2.3	\$ 2.3	\$ 2.3	\$ 2.3		
Avg. total cost per unit					\$ 15.5	\$ 17.1	\$ 17.1	\$ 17.3	\$ 17.3	\$ 17.3	\$ 17.3		
Full Capacity (# of Capsules)					2.7	2.7	2.7	2.7	2.7	2.7	2.7		
Utilization					20.0%	75.0%	75.0%	85.0%	85.0%	85.0%	85.0%		
Units produced					0.5	2.1	2.1	2.3	2.3	2.3	2.3		
<i>Total cost of production</i>					\$ 30.5	\$ 32.1	\$ 32.1	\$ 32.3	\$ 32.3	\$ 32.3	\$ 32.3		
Revenue Assumptions:													
Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
Pricing:													
Price per drug					\$ 65.0	\$ 65.0	\$ 65.0	\$ 65.0	\$ 65.0	\$ 65.0	\$ 65.0		
# of drugs sold					0.5	2.1	2.1	2.3	2.3	2.3	2.3		
Revenue					\$ 35.6	\$ 133.6	\$ 133.6	\$ 151.4	\$ 151.4	\$ 151.4	\$ 151.4		
<i>Contribution margin</i>					99.2%	96.8%	96.8%	96.4%	96.4%	96.4%	96.4%		
Income Statement													
Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
Revenue					\$ 35.6	\$ 133.6	\$ 133.6	\$ 151.4	\$ 151.4	\$ 151.4	\$ 151.4		
Cost of Goods Sold					(30.5)	(32.1)	(32.1)	(32.3)	(32.3)	(32.3)	(32.3)		
Gross Profit					5.1	101.5	101.5	119.0	119.0	119.0	119.0		
Gross Profit Margin					14.2%	76.0%	76.0%	78.6%	78.6%	78.6%	78.6%		
Operations and maintenance expenses					(2.1)	(8.0)	(8.0)	(9.1)	(9.1)	(9.1)	(9.1)		
SG&A (incl. distribution expenses)					(7.1)	(26.7)	(26.7)	(30.3)	(30.3)	(30.3)	(30.3)		
EBITDA					(4.2)	66.8	66.8	79.7	79.7	79.7	79.7		
EBITDA Margin					(11.8)%	50.0%	50.0%	52.6%	52.6%	52.6%	52.6%		
Less: D&A					(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)		
EBIT					(5.7)	65.3	65.3	78.2	78.2	78.2	78.2		
Less: Interest					-	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)		
EBT					(5.7)	47.0	47.0	59.9	59.9	59.9	59.9		
Less: Taxes					-	(9.9)	(9.9)	(12.6)	(12.6)	(12.6)	(12.6)		
Net Income					(5.7)	37.1	37.1	47.3	47.3	47.3	47.3		
<i>Net Income Margin</i>					-16.0%	27.8%	27.8%	31.3%	31.3%	31.3%	31.3%		

CITATIONS

- Report: [PEPFAR sets bold manufacturing targets for Africa](#) - PEPFAR
- Website: [UNAIDS Global HIV & AIDS statistics](#) - UNAIDS
- Website: [The World Bank Open Data Centre](#) - The World Bank
- Report: [Should sub-Saharan Africa make its own drugs?](#) - McKinsey & Company
- Report: [The cost of inaction: COVID-19-related service disruptions could cause hundreds of thousands of extra deaths from HIV](#) - WHO
- Report: [2022 HIV Market Report](#) - Clinton Health Access Initiative
- Report: [Pooled Procurement Mechanism Reference Pricing: ARVs](#) – The Global Fund
- Report : [SDG Partnership Guide Book](#)
- Report: [Country Operational Plan PEPFAR South Africa 2022 Strategic Direction Summary](#) - PEPFAR

TOTAL IMPACT MEASUREMENT MANAGEMENT

Total	A holistic view of social, environmental, fiscal and economic dimensions – the big picture
Impact	Look beyond inputs and outputs to outcomes and impacts – understand your footprint
Measurement	Quantify and monetise the impacts – value in a language business understands
Management	Evaluate options and optimise trade-offs – make better decisions

