



SME Cold Storage:

Reducing Food Waste
Through Solar-Powered Cold
Storage

A Project of SMEFUNDS

The Problem...



In Nigeria, **45% of agro-perishable food waste** majorly due to lack of cold storage



No cold storage facility addressing the challenges of **wastage** and **unfair price reduction**

Our Solution

Walk-in, solar-powered cold rooms for around-the-clock storage and handling, and resale.



Underlying Magic of Business Model

- ✦ From the action research study of GEMS4/DFID, the selling price of a 20-kg plastic crate loaded with tomatoes is at N1,900.00 once offloaded in Mile 12 market, while 20 kg of tomatoes packed in Raffia basket is at N1,200 during the peak period of sale / trade.

Our Proposition/Model:

To buy tomatoes from the willing and desperate-to-sell traders in raffia baskets at reduced prices, and clean, re-pack in plastic crates, and preserve in our cold store overnight, for onward sale to bulk buyers at higher prices daily.

The Social Impact...



- Reduce Food Waste
- Enhanced Income of the local farmers & food merchants
- Scalable / Investable Business Model

Experience & Accomplishments



Fund Management & Business Mentoring



12+ Years
Operating in Nigeria
Setup a multi-million dollar biofuel company, Green Energy & Biofuels; and GoSolar Africa



Solar Systems' Providers & Business Mentors



3+ Years
Northern Nigeria
In cold store facility for agro-perishable produces
In procurement & deployment of renewable energy (solar system)



Cold Store Facility Management Mentors



4+ Years
In South Eastern Nigeria in managing cold store facilities for agro-perishable produces



Debt Fund Provider



40+ Years
Operating in Nigeria
Development bank focused on providing low-cost debt finance to small and medium scale enterprises, especially with social objectives

Executive Team



Femi Oye
Founder,
SEMFUNDS

- 20 years exp. in developing renewable energy enterprises across Africa
- Founder, Green Energy & Biofuels Ltd & GoSolar Africa
- Has raised over \$5million from international investors i.e. Acumen, USAID and DFID



10 years exp. in banking.
Advisor, Impact investment

Dr. Jubril Adejo,
President, SMEFUNDS Cold Storage Project
Director, SMEFUNDS, Nigeria



Over 30 years exp. Global financial services across America, Europe, and Asia.

Rober Dellner
Head, Impact Investment, Lintel Capital, UK



Paul Stevers
Founder, Think Renewables Group Inc.

- Over 30 years' experience in developing technology and named on over 14 patents
- Over 5 years experience operating in developing countries
- Part of a management team that raised over \$10m



Over 19 years' exp. in Africa Financial services industry

Akeem Oyewale, ACA, CITN, CIS
CEO, Stanbic Nominees, subsidiary of Stanbic IBTC Bank, Nigeria



Over 18 years exp. Agricultural finance and project finance in Nigeria financial services industry.

Olugbenga Awe
Group Head, Agric Finance & Exports Heritage Bank Plc, Nigeria

Competition...No Direct Competition



No cold storage facility addressing the challenges of **wastage** and **unfair price reduction**

The Technology: Cold Storage Facility...

>\$65,000 Setup Cost per Cold Storage Facility



In some farming communities, an ice making facility is needed to preserve the harvest and transport it to the cold storage. Its too is powered by the 8kWOGCSS.



Standard dimension is 36ft x 18ft x 8ft. This is scalable as required.

- 75-ton storage capacity
- Powered by 8KW off-grid Solar panel system
- Hybrid energy storage technologies
- Ice making cooling system



Market Size...Mile 12 international market, Lagos, Nigeria



Perishable
Produce...very
fast moving



Up to 120 10-ton
trucks of perishable
produce offload
daily from Northern
Nigeria

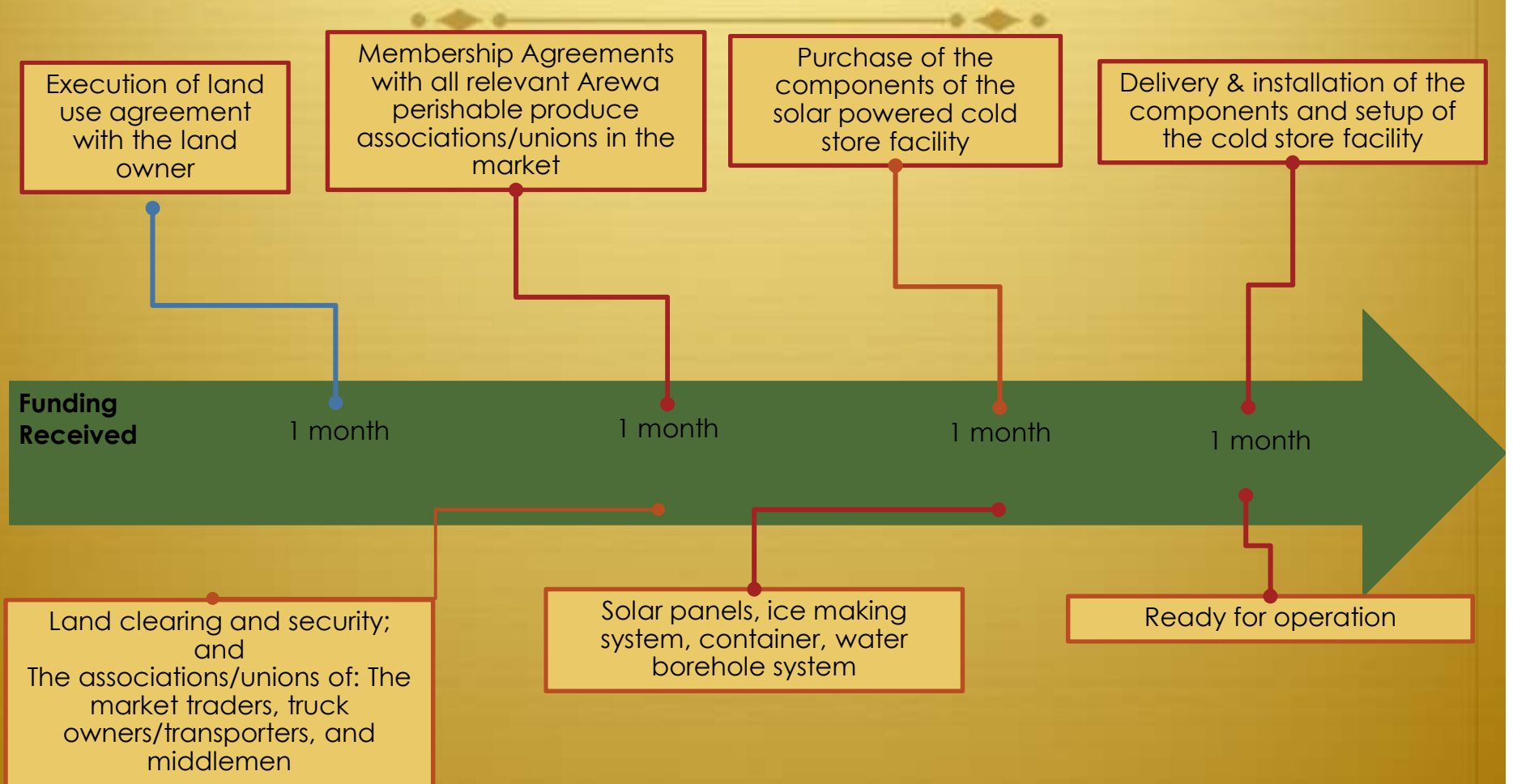
The market trades 24
hours daily...never
sleeps...Biggest in
Africa



No cold storage
facility addressing the
challenges of wastage
and unfair price
reduction in the evenings

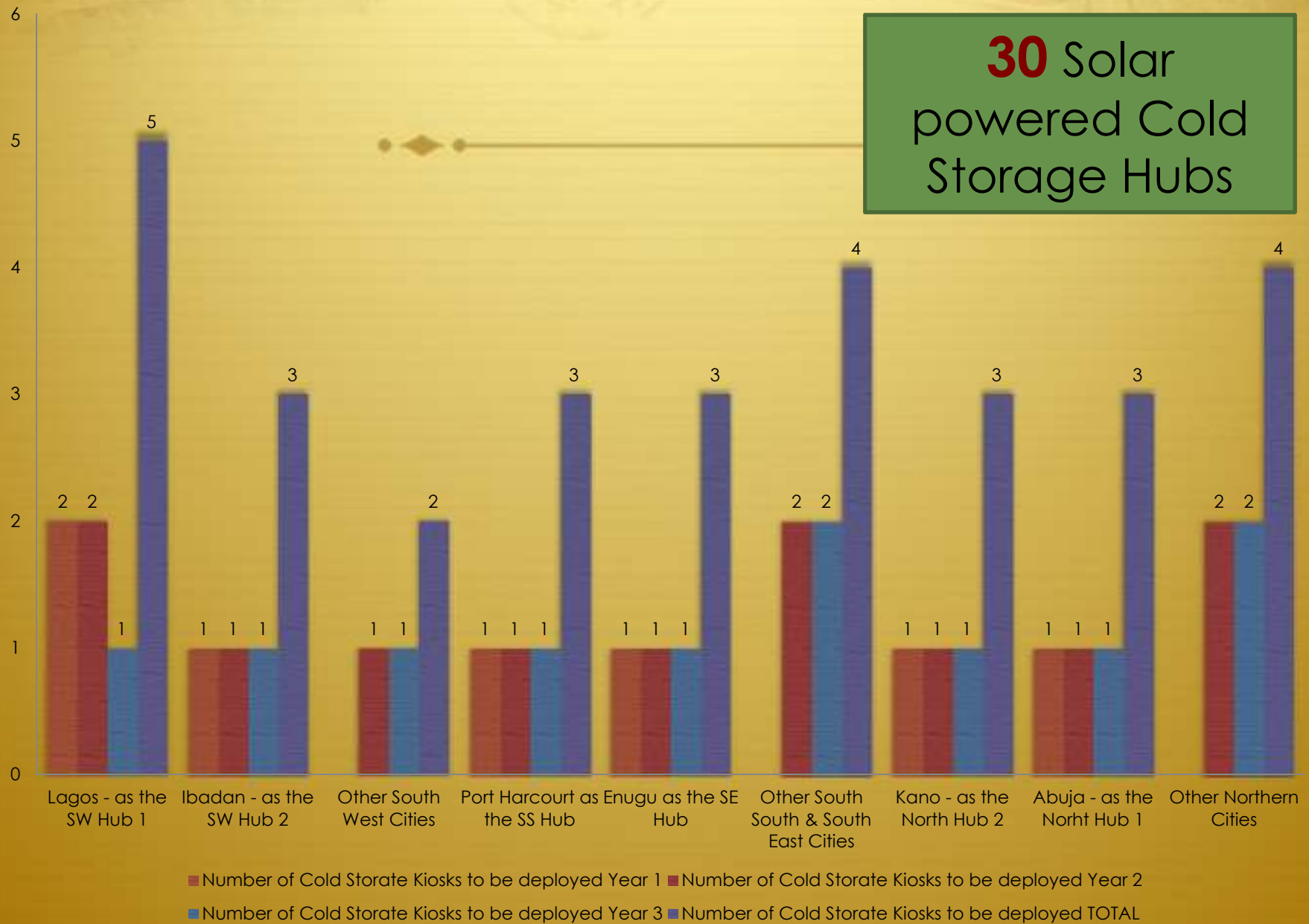
Setup process for every cold storage facility/hub

Deployment of every cold storage facility is between 3 to 4 months as follows:



Our 3 Year Expansion Plan across Nigeria

30 Solar powered Cold Storage Hubs



Total Funding Needed for the 30 locations

Project setup (and 6 months operating) cost per cold storage facility	\$65,000	
Year	No. of cold stores	Project setup cost budget/year
Year 1	7	\$455,000
Year 2	12	\$780,000
Year 3	11	\$715,000
Total	30	\$1,950,000
Headquarters' allocation cost		\$50,000
GRAND TOTAL		\$2,000,000

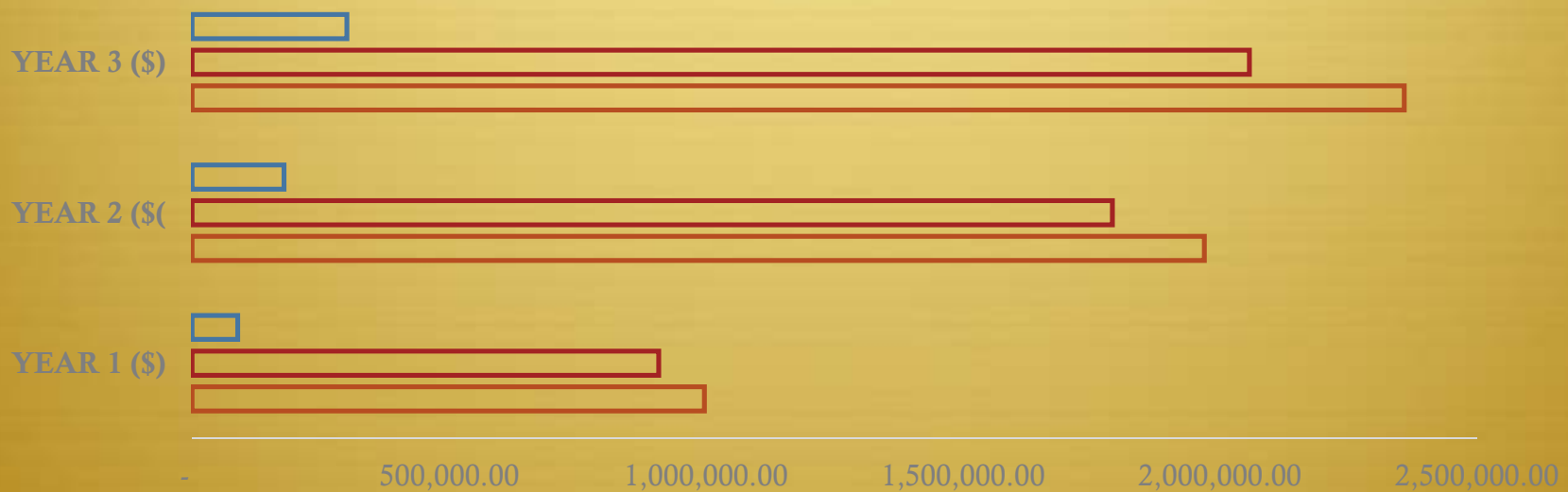
NB: Each cold store will have the headquarters' allocation cost embedded

Expected / Projected Financials from every cold storage facility:

Mile 12 International Market, Lagos, as a model case

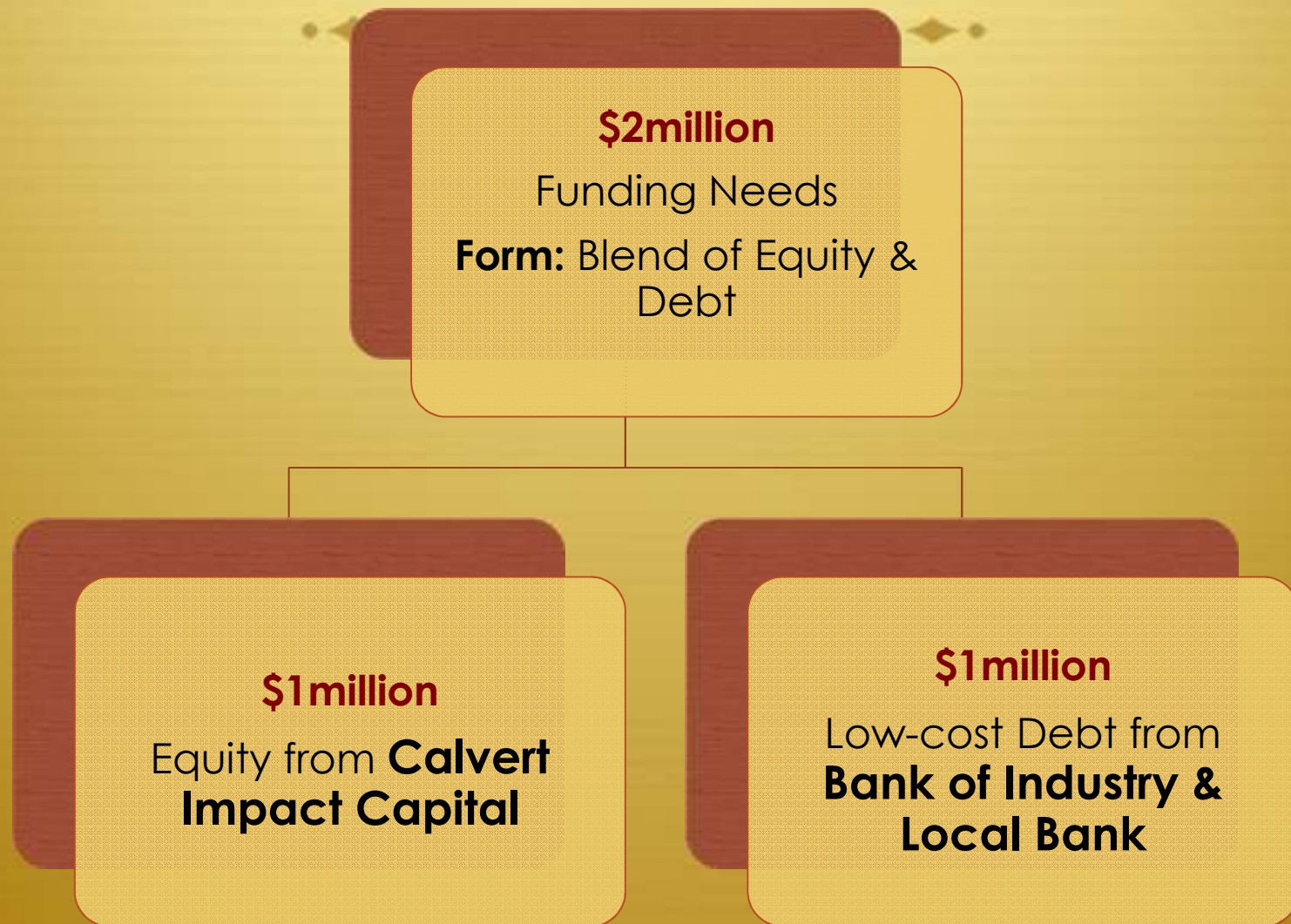
3 Year Financial Summary

■ Net Income / Net Cash operating inflow
 ■ Cash Paid Out / Operating Expenses
■ Cash Receipts



	YEAR 1 (\$)	YEAR 2 (\$)	YEAR 3 (\$)
Revenue	997,297.30	1,970,270.27	2,359,459.46
Operating Expenses	908,233.78	1,791,206.76	2,058,171.83
Net Income / Net Cash operating inflow	89,063.51	179,063.51	301,287.63

Funding Structure for our 3 Year Plan





Thank you