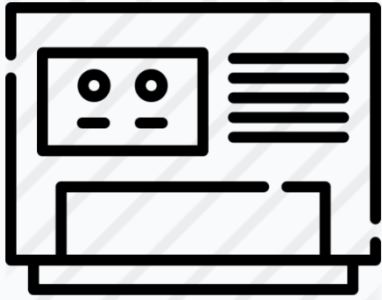




Scaling up Finance for Mini Grids: Nigeria

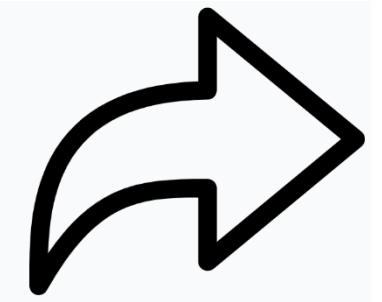
Mini Grid Landscape – Nigeria



**EXISTING MINI GRIDS (SOLAR): 30 (#),
~1MW**



MINI GRID POTENTIAL: According to the REA, installing 10,000 Mini Grids of 100 kW each can occur for 10 years and only meet 30% of anticipated demand.



SCALING CHALLENGE: ~1MW to 3000MW

A Solution: Aggregation of a Portfolio of Public-Entity-Owned RE Projects



The Pilot Project

- THE DEVELOPMENT OF A SELECT PORTFOLIO OF MINI-GRIDS/DISTRIBUTED GENERATION FACILITIES FOR FEDERAL GOVERNMENT OF NIGERIA UNITY SCHOOLS, COLLEGES OF EDUCATION AND POLYTECHNICS

The Project Sponsor

- THE RURAL ELECTRIFICATION AGENCY (REA) THROUGH THE RURAL ELECTRIFICATION FUND (REF)

Project Scope – The Portfolio

- ▶ Preliminary Project Categories Identified by REF (~140MW Capacity).

Public Entity (Categories)	Number	Unit Sizes
Federal Unity Schools	50	~ 200-250kW
Federal Polytechnics	28	~ 1-3MW
Federal Colleges of Education	22	~1-2MW
Others (TBD)	-	-

- ▶ **Technology:** Renewable Energy/Hybrid Generation Systems

The Financing Plan

How will
the
portfolio be
financed?

Project Phases	Uses	Funding Capital Category	Total Sources
Project Preparation	Project Preparation Tasks	Grant Funds	[\$2.0] MM
Financial Development	Fin. Dev. Tasks & Remaining Project Prep. Tasks	Social Impact / Catalytic Funds	[\$5.5] MM
Construction/Implementation	Installation of the Portfolio	US OPIC Wrapped Bond Issue	[\$200] MM

Operating Principle

HOW DOES IT WORK?

The basic principle behind this unique financing structure is to insure against non-payment on a project supply contract between a project EPC and the sovereign, or state-owned purchaser.

- Since the insurer is a AAA rated entity (i.e. OPIC or MIGA), this would allow for a credit enhancement of the borrower up to a credit rating almost comparable to that of the insurer.
- The transaction therefore receives all the benefits in terms of leverage, tenor and pricing of financing at a low risk rating (i.e. enhanced to Aa2) rather than at the borrower's actual high risk perceived low rating
- With such credit enhancement in place, it is possible to raise long-term, low rate financing for the borrower in the US or European capital markets (usually bonds or notes under a private placement)
- To amortize the transaction costs of this structure, financed portfolios of projects should be at least \$175M in construction cost value.

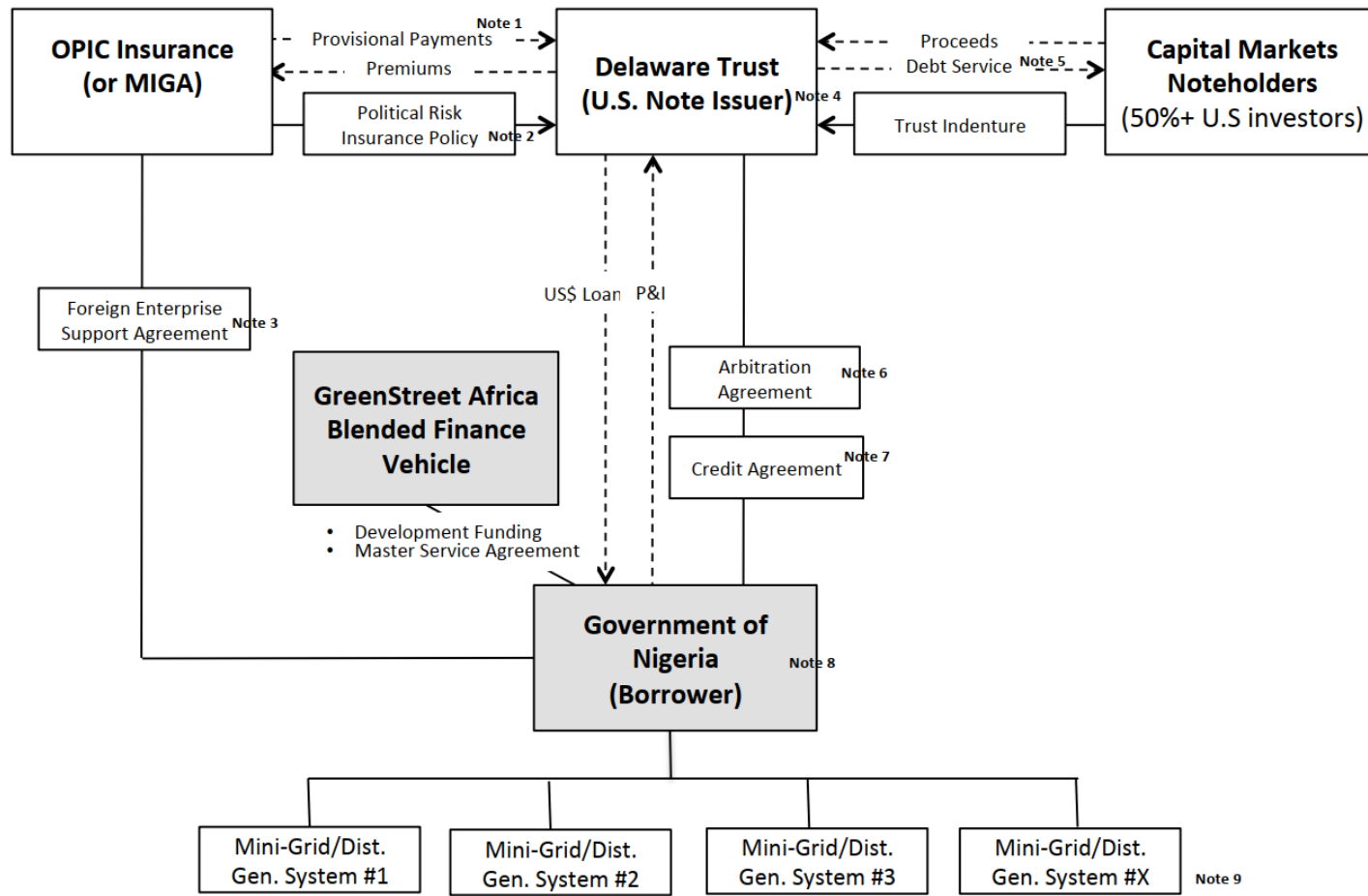
Benefits of this Approach

WHY IS THIS FINANCING APPROACH UNIQUELY ATTRACTIVE?

- 100% financing where OPIC requirements can be met; otherwise 95% financing
- Engagement of private capital to implement off grid portfolios on a very large scale
- Financing term: up to 20 years
- Low interest rates comparable to Aa2 rated bonds
- Sovereign payment guarantee backstopped by insurance
- No assets usually taken as collateral
- No content requirements (unlike ECAs)
- PPP structure with public ownership and private implementation and management of assets

Borrowing Structure

Nigerian Mini-Grid Capital Markets Borrowing Structure



Salient Features of the Initiative

- **Innovative, Proven OPIC-backed Financing Product**
- **Strong Sponsor Experience in the REA/REF**
- **Long-term Financing at Low Interest Rates**
- **Extensive Expertise Provided by GreenMax Capital Advisors**
- **Highly Replicable Financing Structure**

THANK YOU

