FINANCING PRODUCTIVE USE OF ENERGY APPLICATIONS FOR GREEN MINI GRIDS

July 2, 2019
As a practitioner, donor, investor, industry association or researcher, which specific challenge have you encountered regarding the financing of productive use activities?
GMG: PUE Access to Finance Solution

Where we are today…

DESIGN PHASE
- Portfolio Identification
- Customer Identification
- Financial Product Design

PRE-LAUNCH PHASE
- Equipment Procurement
- Partnerships

IMPLEMENTATION PHASE
- Marketing
- Customer Training
- Credit Process
### Core High Income and Energy-Linked Opportunities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Power Requirement</th>
<th>Cost Range</th>
<th>Products/Seasonality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milling</td>
<td>3 kW</td>
<td>Ksh 80-100k</td>
<td>Maize, sorghum, millet, cassava Seasonal</td>
</tr>
<tr>
<td>Irrigation</td>
<td>2-3 kW</td>
<td>Ksh 300-400k</td>
<td>Tomatoes, capiscums, etc Seasonal</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>2 kW</td>
<td>Ksh 15-35k</td>
<td>Dairy, cold drinks, restaurant Not seasonal</td>
</tr>
<tr>
<td>Cold Storage</td>
<td>4-8 kW</td>
<td>Ksh 1 M</td>
<td>Vegetables, fish</td>
</tr>
<tr>
<td>Ice-Making</td>
<td>14 kW</td>
<td>Ksh 4 M</td>
<td>Potential anchor load</td>
</tr>
</tbody>
</table>

Agricultural site

Fishing site
Design Phase: Map of GMG Sites

Map of GMG sites

137
existing and targeted mini-grid sites in the GMG Facility portfolio over the next 2 years

76
Sites eligible for the pilot = approx. 600-900 assets to be financed
Design Phase: Customer Identification

- **Category 1**
  - Q1 2019
  - Busia County: 8 sites
  - Homa Bay County: 1 site

- **Category 2**
  - Q2 2019
  - Kisii & Nyamira County: 36 sites

- **Category 3**
  - Q2 2020
  - Busia County: 22 sites
  - Siaya, Homa Bay, Lamu, Kajiado, Tana River Counties: 8 sites
  - Meru County: 1 site
Design Phase: Design a Solution with a Strong Financing Partner

Focus on...

- Unlock greater commercial and industrial opportunities
- Create micro-hubs of diverse, de-risked economic development by boosting entire communities
- Address full spectrum of local business, from:
  - Posho milling → external market
  - Barber shops → local market

We see additional opportunity...

To complement Equity Bank’s interest in providing more debt loans to SMEs operating mini grids.
## Proposed Terms of PU Equipment Loans

### Asset Finance

<table>
<thead>
<tr>
<th>Loan Amount Range (Ksh)</th>
<th>Tenure (months)</th>
<th>Pricing</th>
<th>Beneficiary Contribution</th>
<th>Collateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 – 100,000</td>
<td>&lt;12</td>
<td>13% + processing fee + credit life insurance</td>
<td>30% upfront deposit</td>
<td>Group co-guarantee, Chattel mortgage &amp; registration of the equipment, Loan Guarantee</td>
</tr>
<tr>
<td>101,000 – 300,000</td>
<td>&lt;24</td>
<td></td>
<td></td>
<td>Chattel mortgage &amp; registration of the equipment, Loan Guarantee</td>
</tr>
<tr>
<td>&gt;300,000</td>
<td>&lt;36</td>
<td></td>
<td></td>
<td>Chattel mortgage &amp; registration of the equipment, Any acceptable formal collateral</td>
</tr>
</tbody>
</table>
### Design Phase: Financial Product Design

**Loan Guarantee: Proposed Terms to De-Risk & Unlock Commercial Lending**

- **Financial Institution**: 0-40%
- **Loan Portfolio**: 60-100%
- **Guarantor Funder**: To Be Determined

**Reduced repayment risk to target new markets or customers**

**Strategic interest in strengthening rural communities with greater economic opportunities**

<table>
<thead>
<tr>
<th>PU Activity</th>
<th>Type</th>
<th>Sites</th>
<th>Units /Site</th>
<th>CAPEX Per Unit (KSH)</th>
<th>Deposit</th>
<th>Loan Principal Disbursed by FI (KSH)</th>
<th>Total Loan Disbursed by FI (KSH)</th>
<th>Loan Guarantee lower range 60% (KSH)</th>
<th>Loan Guarantee higher range 100% (KSH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milling</td>
<td>Agriculture</td>
<td>64</td>
<td>2</td>
<td>80,000</td>
<td>30%</td>
<td>56,000</td>
<td>7,168,000</td>
<td>4,300 800</td>
<td>7,168,000</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>Dairy</td>
<td>64</td>
<td>2</td>
<td>30,000</td>
<td>30%</td>
<td>21,000</td>
<td>2,688,000</td>
<td>1,612 800</td>
<td>2,688,000</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Agriculture</td>
<td>40</td>
<td>2</td>
<td>320,000</td>
<td>30%</td>
<td>224,000</td>
<td>17,920,000</td>
<td>10,752 000</td>
<td>17,920,000</td>
</tr>
<tr>
<td>Ice-making</td>
<td>Fisheries</td>
<td>12</td>
<td>1</td>
<td>4,000,000</td>
<td>30%</td>
<td>2,800,000</td>
<td>33,600,000</td>
<td>20,160 000</td>
<td>33,600,000</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>Fish</td>
<td>12</td>
<td>2</td>
<td>30,000</td>
<td>30%</td>
<td>21,000</td>
<td>504,000</td>
<td>302,400</td>
<td>504,000</td>
</tr>
<tr>
<td>Cold Storage</td>
<td>Mix</td>
<td>20</td>
<td>1</td>
<td>1,000,000</td>
<td>30%</td>
<td>700,000</td>
<td>14,000,000</td>
<td>8,400,000</td>
<td>14,000,000</td>
</tr>
</tbody>
</table>

**Total (KSH)**: 75,880,000

**Total (USD)**: 758,800

**Note**: The loan guarantee range will be determined next.
Next: Pre-Launch Phase

PU equipment needs to be...

Accessible | Affordable | Quality Vetted | Compatible with MG | Serviced

*BUT* Few PU products have been developed to meet the needs of mini grid customers.

Recommended equipment suppliers:

- Milling
- Irrigation
- Refrigeration
- Cold Storage
Next: Roll Out Phase

Targeted Marketing with Partners
Local bank branches | GMG developer | Community Leaders

Training
Business model and management | Equipment installation and maintenance | Financial literacy
Equity Group Foundation working with MG developers and equipment suppliers

Credit Process
Loan application → loan appraisal → credit committee → security → repayment collection

Potential partners to support roll-out...

CLASP, SOLAGEO, Rent to Own, E4i, EELA, GMG Facility, GMG Developers, AMDA, GOGLA, Equipment suppliers
Key Factors to Success

1. Accessibility
   *Commercial model to manage credit process in remote MG communities*

2. Credit Analysis
   *Need for accurate demand data and records on historical performance*

3. Consumer Adoption
   *Cost-benefit analysis for conversion from diesel to mini-grid electricity*

4. Mini Grid Technical Specifications
   *Balancing quality and compatibility*
Q&A