The plan to implement solar mini grids and solar installations in markets is at the heart of Kisumu, Nakuru and Mombasa County Integrated Development Plans (CIDP 2023-2027), FY 2023/24 Annual Development Plans (ADP), and the Governors’ manifestos.

**SOLAR MICRO-GRIDS IN KISUMU, NAKURU AND MOMBASA COUNTY MARKETS**

**PROJECT DESCRIPTION**

The project intends to install solar mini-grids in 12 markets across 3 different counties: Kisumu, Nakuru and Mombasa. The targeted markets are the following 3 main markets:

- **Kibuye market:**
  - Kisumu City biggest 24-hour market
  - housing an estimated 10,000 number of traders
  - spanning 13.6 acres
  - energy consumption is 7 MWh/month

- **Wakulima market:**
  - Nakuru County’s biggest open air market
  - housing an estimated 10,000 traders
  - spanning 4.5 acres
  - energy consumption is 6 MWh/month

- **Kongowea market:**
  - Mombasa’s largest open air market with an estimated 6,000 number of traders
  - spanning 9 acres
  - energy consumption is 14 MWh/month

**PROJECT RATIONALE AND OBJECTIVE**

The markets are 24-hour markets requiring lighting for night trading and electricity to power cold storage and SMEs in the stalls. The cold storage will reduce post harvest losses (fish, meat and horticultural products).

The project will ensure:

- energy transition in the markets from grid powered mixed source whose energy bills are comparatively high to fully renewable off grid power with a backup from grid power.
- optimum lighting to power the markets’ 24-hour economy.

**PROJECT IMPACT**

Reduced emissions from:

- Energy access, energy efficiency and clean energy/ generation
- Waste disposal

**ESTIMATED TIMELINE**

- Preparation (concept note/ pre feasibility study) - 3 months
- Development (feasibility study) - 3 months
- Realisation (approval procedure, procurement, construction) - 14 months
- Operation - 25 years
**PROJECT OUTPUTS**

Across the three markets, the size of the solar micro-grid systems is 130kW

Number of traders served across the Nakuru, Kisumu and Mombasa Counties is estimated at 26,000 traders

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**PROJECT PHASE**

Concept note: Pre-feasibility study of Wakulima market

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**PROJECT INITIAL COST ESTIMATE**

The project requires:

- initial **CAPEX investment of Ksh 735,000,000** equivalent to EUR 4,445,000 and
- annual **OPEX spending of Ksh 6,300,000** equivalent to EUR 38,000.

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**POTENTIAL SOURCE OF REVENUE/ FUNDING**

- Fees for utilisation of the cold room containers in Kisumu and Nakuru counties
- Fees for provision of electricity to the SMEs in market stalls (County Finance Acts to be updated)
- Own source revenue (Kibuye market Ksh. 2.7M /month)
- Savings from difference in BaU and post-implementation electricity bills

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**PROPOSED FUNDING STRUCTURE**

Conditional Grant or Equity

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For more information please contact: Mathews Onyango - onyangomathews@gmail.com