

UNIDO RENEWABLE ENERGY PROGRAM.

ACCESS TO ENERGY IN PERI-URBAN AREAS OF KENYA USING COMMUNITY POWER CENTERS.



By: Felix Kiptum and Paul Njuguna. UNIDO Energy Team.



“Lighting up Kenya”

Energy in Kenya

Facts

- 60% of Kenya not served by electricity grid, mostly in rural areas!
- Even in areas that are “electrified” in rural and peri-urban areas 50-80% of households have no access to this electricity.
- ⑩ In urban areas like Nairobi, slum dwellers have no access to electricity and resort to illegal connections that are cause for many slum fires.



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UNIDOs Intervention

- Utilise locally available Renewable Energy resources to produce Energy for these areas.
- Energy produced to be made available at Community Power Centers for domestic use and productive applications.



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What is a Community Power Center?

- Community Power Center (CPC) is a common energy facility using available energy source to produce and provide electric energy and energy services.
- UNIDO model CPCs use locally available Renewable Energy resources to produce electricity.
- In an area where there is grid power, the CPC can use local electric grid power



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Community Power Centre



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Structure of CPC



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LIGHTING UP KENYA

CLEAN ENERGY RENEWABLE ENERGY

Micro - Hydro

Anaerobic Digester

Biomass Gasification

Wind & Solar

Plant Oil / Vegetable Oil

PRODUCTIVE ACTIVITIES

Small and Medium
Enterprises

Community Development
Centers

ICT and Internet
Development

Access to E-Government
Facilities

Promoting the Use of
LED Lamps

SOCIAL EMPOWERMENT

Improving the Livelihoods

Job Creation

Health Benefits

Improving ICT
Literacy Levels

Empowering Women
and Youth

THE THREE PILLARS OF LIGHTING UP KENYA



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CPC Model

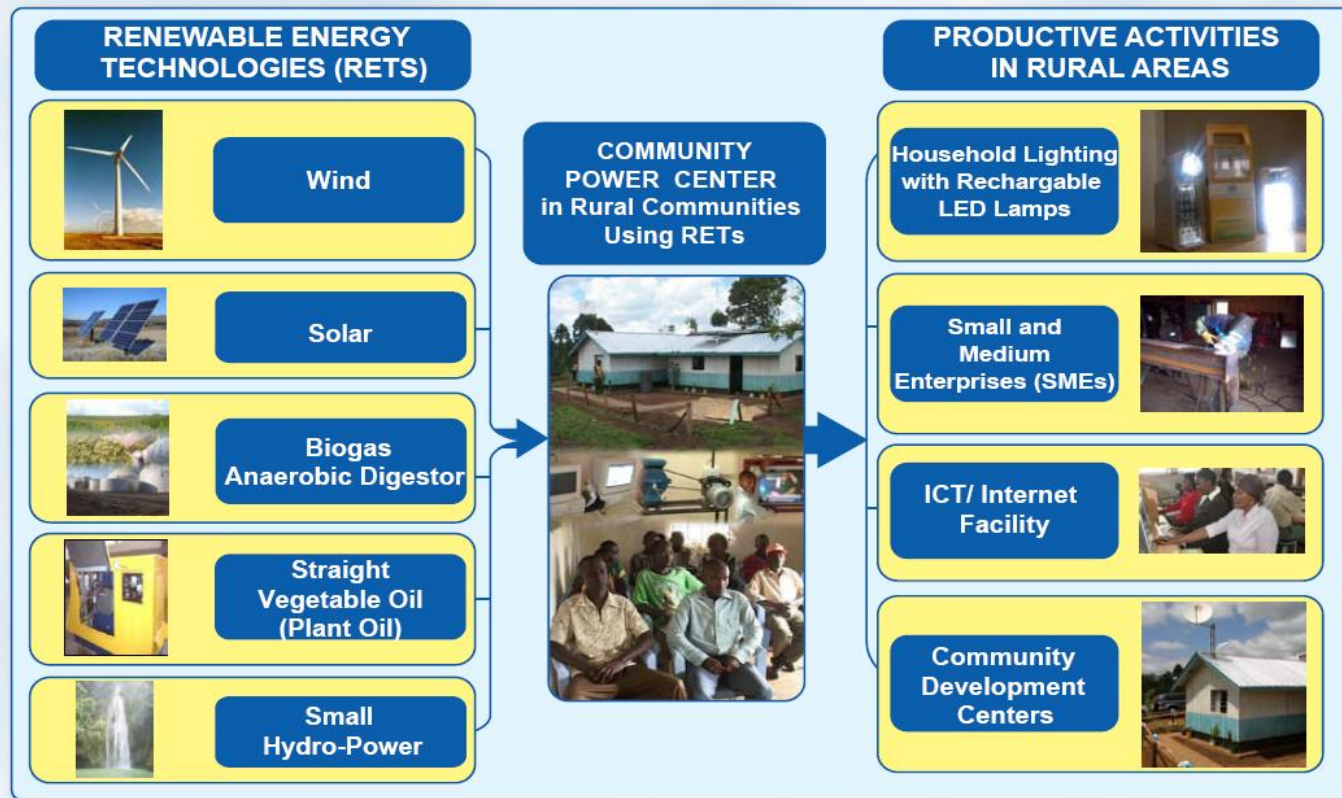


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Community Power Center (Zero Carbon Emission) FOR LIGHTING UP KENYA



NO ENERGY = NO DEVELOPMENT



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Why Common Energy Facilities

Affordable

In Peri-urban and rural areas affordability is major impediment to access.

For a common facility, cost of production, connection or maintenance is shared, so affordable.

Focus on Productive Activities

At the CPCs the use of electricity for productive activities is the main focus, since the CPC is designed to be a profitable facility

Sizing and scaling

A community produces and uses only the energy they require and can expand them organically as needs increase.

The size of CPC can be scaled depending on need and available investment.



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Kerosene Replacement

Use of Energy efficient LED lamps to replace kerosene lamps.

Lamp	Cost of purchase (Kshs)	Cost of consumables (Wick or battery) (Kshs) per year	Cost of Fuel or recharge per year (Kshs)	Total cost (Kshs)
Rechargeable LED (3 lamps)	6,000	1080	2,880	9,960
Kerosene Hurricane lamp (3 lamps)	1500	240	16,800	18,540
Kerosene Tin Lamp (3 lamps)	150	200	20,040	20,390



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Our Peri-urban CPCs

- Ngong
- Kiambu
- Machakos
- Wema Centre - Mombasa



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Thank You !

Your Views Please

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