



ELECTRIC COOKING IN URBAN AREAS (CITY & SATELLITE TOWNS/ MUNICIPALITIES)

PROJECT DESCRIPTION

The project aims at transiting from the ordinary inefficient energy sources for cooking, mainly drawn from biomass (firewood and charcoal) and paraffin to on-grid e-cooking with **portable pressure cooker units**.

These units are accessible and cost-effective thus a most relevant solution (for mid-income households) in peri-urban areas and satellite towns of Kisumu County.

PROJECT OBJECTIVES



To lower GHG emissions and achieve objectives of Nationally Determined Contributions (NDCs).



Improved livelihoods of Kisumu County residents through total benefits of e-cooking technology i.e. reduced respiratory illnesses, cost savings and increased green jobs.



To strengthen partnerships with other institutions enabling sustainable development of Clean Cooking Solutions.

PROJECT RATIONALE

Overall, almost 900 million people in sub-Saharan African countries lack access to modern and clean cooking solutions, being the only region in the world where access to clean cooking solutions has not kept pace with population growth.

In Kisumu County, charcoal and firewood are the predominant cooking methods with:

- 36% of the population using charcoal
- 36% of the population using firewood
- 21% of the population using Liquefied Petroleum Gas (LPG)
- 1.5%, of the population using electric cooking.
- 1% of the population using biogas and briquettes (lack of technological know-how and expensive initial installation costs)

(Source: Kisumu County Access To Energy (A2E) Assessment Report, 2021)

The use of charcoal and firewood presents a public health hazard from indoor air pollution, and increases pressure on biomass sources of energy (trees). Such negative impacts highlight the need to invest in sustainable and cleaner energy technologies.

The project aims to support the Kenyan Government's agenda of achieving universal access to clean cooking by 2028.



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PROJECT OUTPUTS

Increase the number of households using e-cooking appliances from **1.5%**

1,000 households sensitized and trained on e-cooking by **2025**

15 artisans (2 from each sub-county) trained to conduct repairs and maintenance of e-cooking appliances

Develop a **commercially viable, market-oriented e-cooking sector** with distribution points across the County

PROJECT IMPACT

- Reduced GHG emissions
- Reduced household indoor air pollution resulting in lowered health risks for Kisumu County residents (SDG3)
- Lessened pressures on natural resources, decreased forest and land degradation (SDG15)
- Improved access to modern cooking services (SDG7)
- Improved livelihoods
- Reduced time-consuming unpaid work of women and girls (SDG5)

ESTIMATED MITIGATION IMPACT

GHG emissions from burning non-renewable wood fuels for cooking amounts to up to a **gigaton of carbon dioxide equivalent (CO₂e) per year**, representing approximately 2% of global emissions.

Reducing the amount of wood or other biomass fuels burned for cooking or increasing the cleanliness of biomass combustion, also abates short-lived climate pollutants such as **black carbon (BC), which has a short-term climate impact up to 1,500 times stronger than CO₂**. An estimated 44% of anthropogenic BC emissions are attributed to household fuel combustion.

POTENTIAL SOURCE OF REVENUE/ FUNDING

- County government*: The County can co-fund to the value of Ksh 5,000,000
- Community government
- Private sector (product vendors, maintenance teams)

*The County government will not be generating direct revenue from the project

INDICATIVE DEVELOPMENT TIMELINE

5 year project, starting from Jan 2024 for implementation of project
Note: A baseline assessment has already been completed

PROJECT PHASE

Concept note

PROJECT INITIAL COST ESTIMATE

The project requires an initial CAPEX investment of Ksh 28 000 000