



**Awardee: Kachione LLC**

**Project Title: Decreasing the “Affordability Gap” of a 1 kWh/day solar home system with cooking in rural Malawi**

**Kachione LLC** in partnership with **Solar4Africa** and **Solar Ku Midzi** (means "Solar to the Villages" in Chichewa, the official Bantu language of Malawi) and with previous support from MECS has developed a low cost off-grid solar electric cooking system (OGSECS) for rural Malawian households. This system consists of a direct-current electric pressure cooker (DC EPC), a maximum power point tracking (MPPT) voltage controller, and 700 watts of solar panels. The system can provide an average of 1 kWh/day of clean, efficient cooking to low-income rural Malawian households.

The current cost (in 2024) of procuring and delivering our entry-level off-grid cooking system to rural customers is about \$300, yet rural customers who rely on subsistence farming for their livelihood can afford to pay only about half of this. They call the difference between cost and the price that our customers can pay, the “affordability gap.”

In this project, Kachione will collect, and publicly share data that can help optimize the combined use of three specific strategies for bridging this affordability gap. These three strategies are:

1. Lowering systems costs primarily by taking advantage of recent solar panel price reductions that have brought prices to only \$0.08/Wp at the factory door.
2. Developing an efficient and “economically justified” system for financing affordability subsidies that are based on the “Impact Bond” financing concept. (<https://www.brookings.edu/collection/impact-bonds/>)
3. Cross-subsidizing the price of the entry-level OGSECS with profits from sales of our “Forever Battery.” The Forever Battery is a customized lithium titanate (LTO) small-capacity, high-power battery with long-term, high-resolution data logging that is designed to last 10 to 20 years.

Visit **Solar4Africa’s** website: <https://www.solar4africa.org/>

Visit **Solar Ku Midzi’s** website: <https://www.solarkumidzi.org/>

