

# RESEARCH AND DEVELOPMENT FUND PROJECT SPOTLIGHT

## Amped Innovation

First Affordable Direct Current (DC) Solar Generator for Maize Mills, Water Pumps, Freezers and More

### Project Summary

The project will enable Amped's development of an affordable, rugged DC solar generator to power agricultural equipment including maize mills, water pumps, freezers, and more.

### Project Description

Micro and small retailers in East Africa lack access to reliable electricity. Amped is developing an affordable DC solar generator that can be used for multiple purposes. This includes powering productive use appliances during the day, and running fans, lights and charging mobile phones at night. Amped is addressing this unique market need for high-power agricultural solar-powered appliances.

Existing DC generators are limited to low voltages (typically 12 volts), which is not enough to power larger productive-use loads. Some 48 volts (V) DC solutions exist but are few and too expensive. AC solar generators are more costly and energy inefficient for high-power agricultural usage. This is because efficient appliances are all designed for brushless DC motors in the 12-48V range.

To date, Amped has built and deployed over 220,000 solar systems and recently launched its EasyFreeze product line. Amped will use its power electronics expertise to design a drop-in DC solar generator system that costs one-third of current market options. The system will have an integrated battery bank, a 1kW true Maximum Power Point Tracking (MPPT) charge controller, and a 48V output for various high-power agricultural appliances. It will also be modular, easily field repairable, and expandable.



### R&D Partner

Amped Innovation

### Organisation Founded

November 2016

### Technology

DC Solar Generator for agricultural equipment

### Project Location

East Africa

