

RESEARCH AND DEVELOPMENT FUND PROJECT SPOTLIGHT

AMPED INNOVATION

LOW-COST EFFICIENT DC DRIVE FOR OFF-GRID FRIDGES

This project will pilot its new high-efficiency solar fridges that provide an affordable cold storage solution for off-grid businesses. Amped's high-efficiency, smart DC compressor driver design is modular so customers can tune their battery and solar panels.

Amped Innovation is designing low-cost circuitry, which will help ensure that DC compressors are suitable for a wide range of environments. The circuitry will also optimise the temperature within the food/beverage compartment using the smallest amount of energy required. It will be integrated directly with the refrigerator and can be run using a PAYGO system or its stand-alone system. The product also provides feedback to customers on their optimal energy needs (whether they need more or less battery power or solar energy).

In addition, the product uses four 40 Watt solar panels and a battery capacity of 20Wh - 200Wh. Users can adjust both solar panels to meet their needs, helping to reduce cost. Since customers adapt the product to their energy needs over time, there is potential for them to reduce their monthly PAYGO fees. Some customers may also choose to utilise an 'ice battery' inside the fridge to reduce the size of the lithium battery further.



AT A GLANCE

R&D Partner
Amped Innovation

**Efficiency for Access
Funding**
£161,801

**R&D Funding Unlocked
from Amped Innovation**
£ 167,237

Project Locations
Cameroon, Kenya