

RESEARCH AND DEVELOPMENT FUND PROJECT SPOTLIGHT

FOSERA GMBH & CO KGAA

PELTIER-BASED SOLAR COOLER

Peltier-based cooling technology has many benefits and can meet the off-grid solar market's needs. Fosera aims to develop a cooling product that is ready for this market.

Most available solar refrigerators work with compressors. Peltier cooling is a semi-conductor-based cooling technology, which is inexpensive and requires less maintenance compared to existing technologies. Peltier coolers can be transported easily and have no mechanical moving parts except for fans. In addition, they can be quickly assembled and repaired on-site. Peltier coolers are also quieter and do not contain greenhouse-gas emitting refrigerants.

Fosera wants to bring Peltier technology to the off-grid solar market. The technology increases appliances' efficiency and implements a smart energy management algorithm. This means that the Peltier cooler can be powered by smaller and cheaper batteries compared to other refrigerators. When the cooler is connected to a solar home system, Peltier technology enables energy-efficient refrigeration.

By creating a small and affordable design for coolers, Fosera aims to meet Tier 2 households' demands on the electricity access multi-tier framework.

Access to cooling brings a wide range of benefits to rural communities. Refrigerators and cold storage allow end-users to store food for longer and generate income by selling cold food and drinks.



AT A GLANCE

R&D Partner

Fosera GMBH & Co KGAA

Efficiency for Access Funding

£103,087

R&D Funding Unlocked from Fosera GmbH & Co KGaA

£44,180

Project Locations

Germany, Kenya

