

# MSIP INNOVATION CHALLENGE CASE STUDY – SOLARISKIT



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INNOVATION

**Design and testing of a flat-packed, self-assembled solar hot water system for off grid applications.**

## OBJECTIVE

To design, build, and test a completely self-assembled solar hot water system. Design and testing was to be carried out at MSIP Dundee with field testing to be carried out in Africa.

## MSIP INNOVATION CHALLENGE 1 SUPPORT

The Innovation Challenge provided essential funding to developing several working prototypes to optimise the design of our passive, gravity assisted solar hot water system. Funds were primarily used for the purchase of materials for both testing and field trials. Field trials have been successfully completed in Zambia and Malawi.



## OUTPUTS

SolarisKit has successfully developed a new product which opens up a new market for its solar heating solution. The GravityFlow system has been developed and tested in Scotland, Zambia, and Malawi. We have had significant interest for this solution from churches, charities, and NGOs who are seeking off-grid clean energy solutions. South Africa is one region which has expressed strong interest, particularly for social housing applications.

## IMPACT

The product developed from this project has significant environmental and social benefits. In sub-Saharan Africa, the majority of water is heated using charcoal and wood. This has led to devastating rates of deforestation, carbon emissions, and is strongly linked to respiratory problems due to inhalation of combustion particulates. We have worked with an external lifecycle assessment consultant (Impact Forecast) and determined each GravityFlow solar hot water system installed results in an annual saving of 215.7 kg of carbon savings per annum. The potential for our solution is in the scale of millions leading to enormous carbon emissions reductions while helping to reduce deforestation.

