

# ARC POWER RWANDA



**Location**  
Rwanda

## PROJECT SUMMARY

The first phase of an ambitious scheme to build a large portfolio of mini-grids in Rwanda is under way after its British-based developer secured £900,000 in convertible loans from REPP.

As of April 2020, REPP's critical early-stage support for the project had enabled ARC Power Ltd to complete six mini-grids made up of two generation systems and six distribution networks serving seven villages in Bugesera District. A total of 4,895 people have so far been connected to electricity for the first time.

Following successful completion of the eight mini-grids in the initial phase, ARC Power intends to complete the construction of the second and wider roll-out of the project, which will boost the total generating capacity from 0.12MW to 2.24MW.

Energy from the mini-grids is being offered on a pre-pay, pay-as-you-go basis to off-grid communities currently with no access to clean energy, and who mostly rely on more expensive and polluting sources of energy such as kerosene for lighting.

The portable and modular mini-grids were developed by ARC Power and can each connect between 100 and 600 households or businesses in a village, providing productive-use, A/C power for lighting and mobile charging, as well as the ability to use appliances and machinery, enabling the development of small businesses. The modular nature of the units also allows for increased capacity to be added following the initial installation, ensuring that supply can be ramped up in line with demand.

Over 50 jobs have been created so far during the initial phase, with the full project forecast to result in 200 jobs during construction and a further 40 during operation. Once completed, the mini-grids will provide enough clean electricity to meet the needs of up to 145,000 people living off-grid in Rwanda, which currently has an estimated national electrification rate of 30%, and just 12% in rural areas.

The Rwandan government, which has set a target to provide universal energy access by 2024, is seen as a keen supporter of the project and of private sector involvement in the country more generally. If successful, the project will prove the case for large-scale off-grid solar PV solutions in Rwanda, and catalyse interest from the commercial sector.

REPP funding is being matched by private Swedish impact investors.

## AT A GLANCE

### Technology

Solar PV  
mini-grids



### Project type

Off-grid

### Offtaker

Off-grid  
communities

## KPIs



Greenhouse gas emissions avoided: Phase 1:  
263 tCO<sub>2</sub>e p.a., whole project: 4,906 tCO<sub>2</sub>e p.a.



People with new energy access: Phase 1: 5,625,  
whole project: 145,000



Installed capacity:  
Phase 1: 0.12MW,  
whole project: 2.24MW

## FUNDING STRUCTURE

**Signed:** 18 Feb 2019 (initial loan);  
13 May 2020 (additional loan)

**Type:** Convertible loan

**REPP funding:** £600,000 (initial loan);  
£300,000 (additional loan)

## SDGs



*"We have huge ambitions for ARC Power in Rwanda. The funding from REPP will allow us to press forwards with our national rollout, providing affordable, reliable and clean power to around 145,000 people in these next two phases."*

Karl Boyce, CEO, ARC Power