

# EnDev Rwanda



Country	Rwanda
Technologies	Hydro, stoves, grid, solar
Project period	10.2009 – 12.2024
Budget	EUR 31,075,600
Partners	Ministry of Infrastructure (MININFRA), Rwandan Energy Group (REG), private sector
Implementing Organisations	GIZ, SNV, AVSI
Objective	Transforming markets to provide access to affordable, reliable, sustainable, and modern energy as a means to deliver social, economic, and environmental change.
Achievements until 12-2022	<p>ReCIC: 5 cooperatives and 14 medium companies supported, 93,318 ICS sold, 98,600 t CO<sub>e</sub> avoided</p> <p>Mini-Grid RBF: More than 10,000 people gaining access through 22 solar DC nano-grids, 2 solar AC and 1 hydro mini-grid, with 97 entrepreneurs supported in PUE</p> <p>Solar Lighting RBF: More than 630,000 people gained access to energy through solar lighting products</p> <p>PSP Hydro: Four hydro power plants providing electricity to 45,000 people, with a total capacity of 2,874 kW</p> <p>Grid-densification: 14,800 poor households connected</p>

## Background

The Government of Rwanda (GoR) is striving towards universal electricity access by 2024 – and has made considerable progress towards that. Electricity access has increased from 19% in 2014<sup>1</sup> to more than 75% in 2022.<sup>2</sup>

EnDev Rwanda, active since 2009, has contributed to the government's endeavours on energy access through innovative approaches to support the development of new markets. It facilitated the development of four micro hydro power (MHPP) plants, has implemented two results-based financing (RBF) projects for decentralised energy solutions and, in 2020, launched the project "Reducing climate impact of cooking in Rwanda through improved cooking energy systems" (ReCIC). In addition, it supports several authorities in the country in establishing a suitable regulatory energy framework. Until 2011, EnDev Rwanda was also active in the biogas sector. More recently, EnDev has piloted approaches to supporting productive use of energy (PUE) including launching the first solar cold-storage-as-a-service pilot in Rwanda.

## Climate change mitigation in the cooking sector

The GoR, through its Biomass Energy Strategy (BEST) seeks to reduce the share of households using inefficient cooking solutions from 83.3% (2014) to 42% by 2024. To date, nearly 70% of the population continues to use three-stones and traditional stoves for cooking.<sup>3</sup> EnDev's ReCIC project, co-financed by the European Union under the GCCA+ initiative, aims to address this challenge by supporting the sustainable production and dissemination of improved cookstoves (ICS) and alternative fuels. Moreover, EnDev is working with the GoR in strengthening the regulatory framework, the testing

<sup>1</sup> MININFRA, SE4ALL Rwanda Assessment and Gap Analysis, November 2014

<sup>2</sup> Rwanda Energy Group (REG), <https://www.reg.rw/what-we-do/access/>

<sup>3</sup> National Institute of Statistics of Rwanda, Ministry of Finance and Economic Planning [Rwanda], 2012. Rwanda Fourth Population and Housing Census.

capacities and overall sector coordination to improve the existing market conditions. In 2021, EnDev advised the GoR in developing a Clean Cooking Compact and recruited an international expert to support the cooking team within the Energy Development Corporation Limited (EDCL).

### Sector development through results-based financing

In 2014, EnDev Rwanda started to provide support to private solar companies and mini-grid developers through results-based financing, supported by UK Aid. The key objective of the two RBF programmes was to boost energy access markets through private sector-led development. Through the RBF programmes, EnDev has contributed to positioning off-grid renewable energy technologies as a means to achieving universal energy access in Rwanda. Following the significant impact of the solar program, EnDev Rwanda launched the Pro-Poor RBF, supported by USAID, a market-based alternative to reach low-income households with solar products. In 2021, the GoR took up the Pro-Poor RBF and scaled it up to a 30 million nation-wide programme. The Village Grid RBF helped raise the profile of the mini-grid sector. A new mini-grid RBF programme was launched in early 2022, integrating lessons learned from the previous programme.

### Productive use of energy as a new focus

EnDev Rwanda initially identified productive use of energy (PUE) as a strategic intervention area complementary to the ongoing mini-grid development. The AVSI-implemented PUE program (01/2020-07/2022) supported entrepreneurs (39% female) over six mini-grid sites, which received entrepreneurship training. Supported businesses range from carpenters to tailors and barbers as well as providers of digital services. The entrepreneurs were able to purchase appliances through a matching grant scheme.

To expand its PUE activities, EnDev Rwanda acquired funding from the Netherlands Enterprise Agency (RVO) Innovation Fund. The new project titled “Cold Storage as a Service” pilots an innovative solar-powered cold storage technology and business model in cooperation with a private sector partner at local market sites in Rwanda. The first walk-in cold rooms were installed at the end of 2022.

### Development of a private on-grid hydro sector

EnDev is also implementing the project “Private Sector Participation in Micro-hydro Power Supply for Rural Development” (PSP Hydro). Supported by the project, the first privately-owned micro hydropower plant in Rwanda started feeding into the national grid (96 kW) in 2010, followed by three further projects. Three hydro power plants are still under construction and will add a total of 2 MW to the national grid.



### Putting bread on the table, around-the-clock

Rutenderi, in the east of Rwanda, about 150 km from the capital Kigali, is home to 4,000 people. The area is relatively flat and fertile, with bananas, maize, beans, and rice grown there. However, until recently, the village was not connected to the national grid.

This changed in 2019, when a solar mini-grid was installed in Rutenderi. Supported by EnDev, the mini-grid serves over 500 households, 40 businesses and 10 social institutions, including the mill of Joseph Singirankabo.

Joseph's business has been transformed: the new electricity source is clean and makes power available around the clock, and Joseph's earnings have increased by about 20 percent. At the same time, he does not have to buy diesel and now spends only a third on electricity of what he spent before. And it's not only Joseph who benefits from this: a few months after the installation of the mini-grid, Joseph opened a bakery next to his mill, hiring new assistants and thus creating jobs.

Funded by:



Coordinated by:



Published by:

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH  
Registered offices Bonn and Eschborn, Germany  
Dag-Hammarskjöld-Weg 1-5  
65760 Eschborn, Germany  
E info@giz.de  
I www.giz.de

Contact:

Emergising Development  
E endev@giz.de  
I www.endev.info  
As of: December 2022

Photos:

P. 1 © GIZ/Abdul Muyingo  
P. 2 © GIZ/Abdul Muyingo