

RENEWABLE ENERGY FOR REFUGEES



A couple in Kigeme with an SHS installed on their roof
(Practical Action / Edoardo Santangelo)

REFUGEES
NEED ENERGY

Refugees in Rwanda and Jordan most often do not have sufficient access to energy to meet their basic needs, or to live fulfilling, safe, and productive lives.

In many cases, neither do the communities that host them. Like everyone else, they need energy to power their homes, businesses, schools, and health clinics. Families need energy to earn an income, to stay in touch, to cook, and to study. Yet, energy is inaccessible, unsafe, and unaffordable, particularly in refugee camps. Without access to energy, they are unable to rebuild their lives and have to rely on humanitarian aid.

Jordan background

Jordan is the second-largest host of refugees per capita worldwide with 750,922 persons of concern. Over 83 per cent of those people are living in urban areas outside refugee camps. Jordan has relatively high youth unemployment and a significant number of children remain out of school because of financial barriers and the poor quality of services provided. UNHCR states that around 80 per cent of Syrian refugees in Jordan live below the poverty line and struggle to pay monthly bills. Rent and utilities are their highest costs.

Rwanda background

In Rwanda's camps, access to electricity and lighting in households are below the targets set by the government. Before our project, 58 per cent of households either had no lighting at night or used only basic sources such as candles and torches. Three-quarters of households relied primarily on three-stone fires, mud stoves, and firewood for cooking. Most households (90 per cent) coped with the lack of firewood by skipping meals, reducing portion size, or exchanging food for cooking fuel.












Ensuring Refugee Camps in Rwanda have Access to Sustainable Energy

OUR APPROACH

Working directly with refugees and the communities that host them, along with governments and local partners, RE4R is increasing access to renewable energy (see table on next page for details of the project components). We have developed an approach that works towards:

- **Strengthening and supporting markets**
RE4R provides refugees with access to affordable sources of renewable energy by encouraging the engagement of private sector actors and strengthening local markets. RE4R does this in a way that can be economically sustainable beyond the life of the project. This enables refugees to choose the solutions that work best for them.
- **Promoting economic activity for refugees and host communities**
By powering lighting, cooking, radios, mobile phones, tools, and appliances, RE4R enables refugees to generate income and move from reliance on aid to economic independence. We support refugees and the local communities that host them with finance and training to help them make the most of the energy they have access to, and to use it to support their families and communities.
- **Providing ‘Total Energy Access’**
RE4R ensures that households, enterprises, and community service providers have the energy supply and services they need to support human, social, and economic development. This includes access to technology and expertise to bring renewable energy to homes, schools, health clinics, and businesses.
- **Fostering change at the systems level**
RE4R demonstrates how renewable energy transforms the lives of refugees, and takes the experiences and solutions to those who can use them in other humanitarian settings across the world.

WHAT WE ARE DELIVERING

	Rwanda	Jordan
Households	 Renewable biomass cooking technologies  Solar home systems	 Solar water heating systems and energy efficiency upgrades
Livelihoods	 Productive uses of energy  Solar systems for small enterprises	 Skills training and capacity building
Communities	 Camp-wide solar street lighting  Solar mini-grid for institutions and community facilities	 Onsite PV and energy efficiency upgrades for public schools

Global activities
<ul style="list-style-type: none"> • Research and data • Learning on private delivery models and livelihoods • Project learning and knowledge • Policy advocacy • Communications and outreach • Monitoring, evaluation and learning

SUPPORTING HOUSEHOLDS



A woman and child under the light from their solar home system
(Practical Action / Edoardo Santangelo)

⚡ Electricity

RE4R provides solar home systems (SHSs) for households and small businesses in three refugee camps in Rwanda which provide energy for lighting, phone charging, and small appliances, such as radios.

Most refugees (84 per cent) who have purchased a system use it as their primary source of light, enabling children to study and families to socialize, work, and have more freedom in how they spend their time after dark.

We supported two SHS suppliers to provide affordable products directly to refugees. This activity aims to strengthen the market for energy in the camps and has also created jobs for refugees, as technicians, customer care and sales agents, security guards, and business owners.

A community fund for inclusion

We have established a community fund to promote financial resilience and support the poorest households to afford SHSs. The fund provides loans and savings schemes to groups, supports the establishment of micro-businesses, and builds financial management skills. By helping refugees to work together, we are making sure that the benefits of renewable energy are available to all.

Achievements so far

3,288	SHSs installed in households
224	participants in the community fund
83%	of customers report they are able to do recreational/leisure activities after dark
92%	of customers report they feel safer in their homes after dark
73%	of customers report they are able to study after dark

🔥 Clean cooking

More than three-quarters of households rely primarily on basic stoves and firewood; however, the limited supply and unreliable nature of firewood is a major problem.

In 2021 we are supporting existing clean-cooking suppliers in Rwanda to scale up their businesses and increase access to improved cook stoves and sustainable biomass fuels for refugees.

⚡ Hot water

RE4R has installed solar-powered hot water systems for refugee families living in rented accommodation in Jordan. In exchange for the installation, landlords agreed to reduce refugee tenants' rent for a year. Improvements to insulation, doors, and windows were also made to these homes. Reduced rent payments and lower energy bills are making a huge difference to refugees' monthly budgets.

Achievements so far

572	households have received solar water heaters
123	households have received energy efficiency upgrades
29%	average reduced spending on non-renewable energy technologies and fuels for households after the installation of solar water heaters



Norwegian Refugee Council supported me by installing a solar water heater, in return the landlord agreed on a reduction of rent that helped me in making personal savings.

Syrian refugee living in northern Jordan

HELPING LIVELIHOODS

Livelihoods

RE4R is supporting 147 entrepreneurs and small businesses in and around the camps in Rwanda through our Productive Uses of Energy for Livelihoods Programme. We match entrepreneurs with business mentoring programmes, technical training, and access to finance, to help them use energy to boost their incomes. Some of the businesses we support include hairdressers and salons, butchers, a cybercafé, phone repair shops, tailoring and shoe repair shops, food production, egg incubation, carpentry, and cafes.

Achievements so far

44

entrepreneurs have reported a 50% increase to their incomes since participating in the mentorship programme

“

This training [on solar energy] taught me everything from A to Z... I managed to find a job suitable to my personal circumstances as a stay-at-home mother. I can now work from home.

Graduate from the youth training scheme

Employment training

Training on solar technology delivered by RE4R in Jordan has helped young people gain key skills to enter the renewable energy sector. Students have completed certified training to design, monitor, and maintain solar systems and on how to transition to employment, including interviewing skills and matching with employment opportunities.

Achievements so far

115

youth trained in renewable energy vocational technical and employability skills

107

youth students have become certified technicians

90

youth students have been trained on environmental initiatives



Students participate in a training on solar technology (Norwegian Refugee Council)

SUPPORTING COMMUNITIES

“

In case a child would fall sick at night it would be impossible to take them to the clinic, which we can now do thanks to the light from streetlights.

Gihembe camp resident

Streetlights

Following consultation with refugees, RE4R installed solar streetlights in three camps in Rwanda. Refugees prioritized the locations that needed lighting. These included health centres, water and sanitation facilities, markets, playgrounds, and sports fields, as well as access routes to them. Night-time lighting has transformed life after dark: shops stay open, children are able to play and study, and residents feel safer moving around the camps after nightfall.

Achievements so far

185	streetlights installed
100%	of streetlights functioning 12 months after installation
62%	of refugees report they are able to do business or productive activities after dark
91%	of refugees report they feel safer after dark

Schools

Many schools in Irbid have been running double shifts to accommodate Syrian and Jordanian students since the influx of refugees in 2012. To support the schools' infrastructure, RE4R has installed on-site solar photovoltaic (PV) systems and made energy efficiency upgrades, such as installing LED lights, solar water heaters, and shading panels on windows. These changes have helped make schools more comfortable, cooler in summer and warmer in winter, and contributed to reducing their electricity bills. The teachers and students have been taught how the upgrades are not just better for them, but also better for the environment, which has helped to build local ownership of the initiative.

Achievements so far

14	schools have had PV systems installed
8	schools rehabilitated with energy efficiency upgrades
13,389	students reached
50	government stakeholders trained in operation and maintenance



*Children play under a streetlight in Nyabiheke camp
(Practical Action / Edoardo Santangelo)*

AT THE GLOBAL LEVEL

RE4R makes the case that investing in energy in humanitarian settings empowers refugees to become more independent, and to have more agency, dignity, and livelihood opportunities. We document the impact of our global activities and the lessons learned so we can share the processes we have followed and the decisions we have taken. This includes showing what worked and, just as importantly, what didn't work, and sharing what we have learned with the wider sector.

Achievements so far

48	policy forums and engagement events participated in
10	knowledge products produced through RE4R
983	downloads of the knowledge products

SUMMARY

Our Renewable Energy for Refugees project (RE4R) is helping refugees, and the communities that host them, access renewable energy, build their economic independence, improve quality of life in homes and communities, and secure livelihoods.

Donor: IKEA Foundation



Project dates: April 2017 to February 2022

Locations: Rwanda – Kigeme, Nyabiheke and Gihembe refugee camps
Jordan – Irbid refugee camp

Beneficiaries: Rwanda – 50,000 / Jordan – 10,000

Funding: €8.6 million

Project partners:



For more information, visit:

practicalaction.org/our-work/projects/energy-for-refugees/



About Practical Action

We are an international development organization putting ingenious ideas to work so people in poverty can change their world. Our vision is for a world that works better for everyone.

We help people find solutions to some of the world's toughest problems, including challenges made worse by catastrophic climate change and persistent gender inequality.

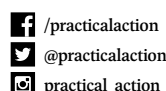
We believe in the power of small to change the big picture. And that together we can take practical action to build futures free from poverty.

Big change starts small.

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