REPP

managed by camco clean energy

REPP REPORT AND FINANCIAL STATEMENTS

2022-2023

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IMAGES ON THE COVER:
Top: Lidera Green Power
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Bottom left: Nuru
Bottom right: PowerGen Renewable Energy

Source: PowerGen Renewable Energy

EXECUTIVE SUMMARY

The Renewable Energy Performance Platform (REPP) was set up in 2015 with the primary purpose of avoiding greenhouse gas emissions (GHG) by providing access to clean, affordable electricity. By the end of this reporting period, REPP-financed projects had connected nearly **1.3 million people to affordable clean electricity for the first time,** with a further 832,000 expected to be connected over the lifetime of all currently contracted projects. In terms of climate mitigation, **nearly 117,000 tonnes of GHG have been avoided,** with approximately 20 million tonnes expected to be avoided over the projects' lifetimes.

REPP is a UK-funded programme managed by Camco and is the leading investment platform for small-scale and distributed renewable energy across the region today, providing flexible capital and support to project developers who traditionally face myriad barriers to finance their products.

REPP's flexible financial approach, coupled with technical assistance and the risk mitigation support offered by its partners, is demonstrating operational feasibility and creating the commercial interest necessary to take renewable energy technologies to scale and help shift Africa towards a low-carbon, climate-resilient future. In line with this, it had **committed GBP 47.5 million** to projects as of 31 March 2023, with a further GBP 25.1million in approved investments, and has **mobilised an additional GBP 362 million** from third parties.

REPP supports climate change mitigation through every investment it makes. It also seeks to achieve transformational change in the distributed renewable energy market and ensures that its support for projects, businesses and markets is aligned with countries' climate, energy and sustainable development priorities.

As of 31 March 2023 REPP had **supported 42 projects** spanning **20 countries** across Africa and **employing seven technologies,** namely solar home systems, solar PV mini-grids, solar PV-powered batteries, grid-connected solar PV, geothermal, run-of-river hydroelectric power and on-shore wind. This broad range of technologies reflects REPP's appreciation for the varying operating contexts and electrification requirements across Africa, where small-scale decentralised renewable energy solutions are often better suited for serving the growing population's needs than national grids.

Twenty-nine per cent of REPP's investments to date have been in mini-grid projects and companies, leading to the World Bank ranking REPP as the second most active investor in mini-grids in its *Mini Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers,* published in September 2022.

Meanwhile, the small and medium-scale on-grid technologies REPP supports, such as an operational 2.4MW wind farm in Tanzania, a 7.5MW solar plant in Burundi, and 5.7MW of solar plant installed to hybridise existing heavy fuel oil power stations in Madagascar, provide low-carbon solutions for bolstering existing central grids and increasing capacity.

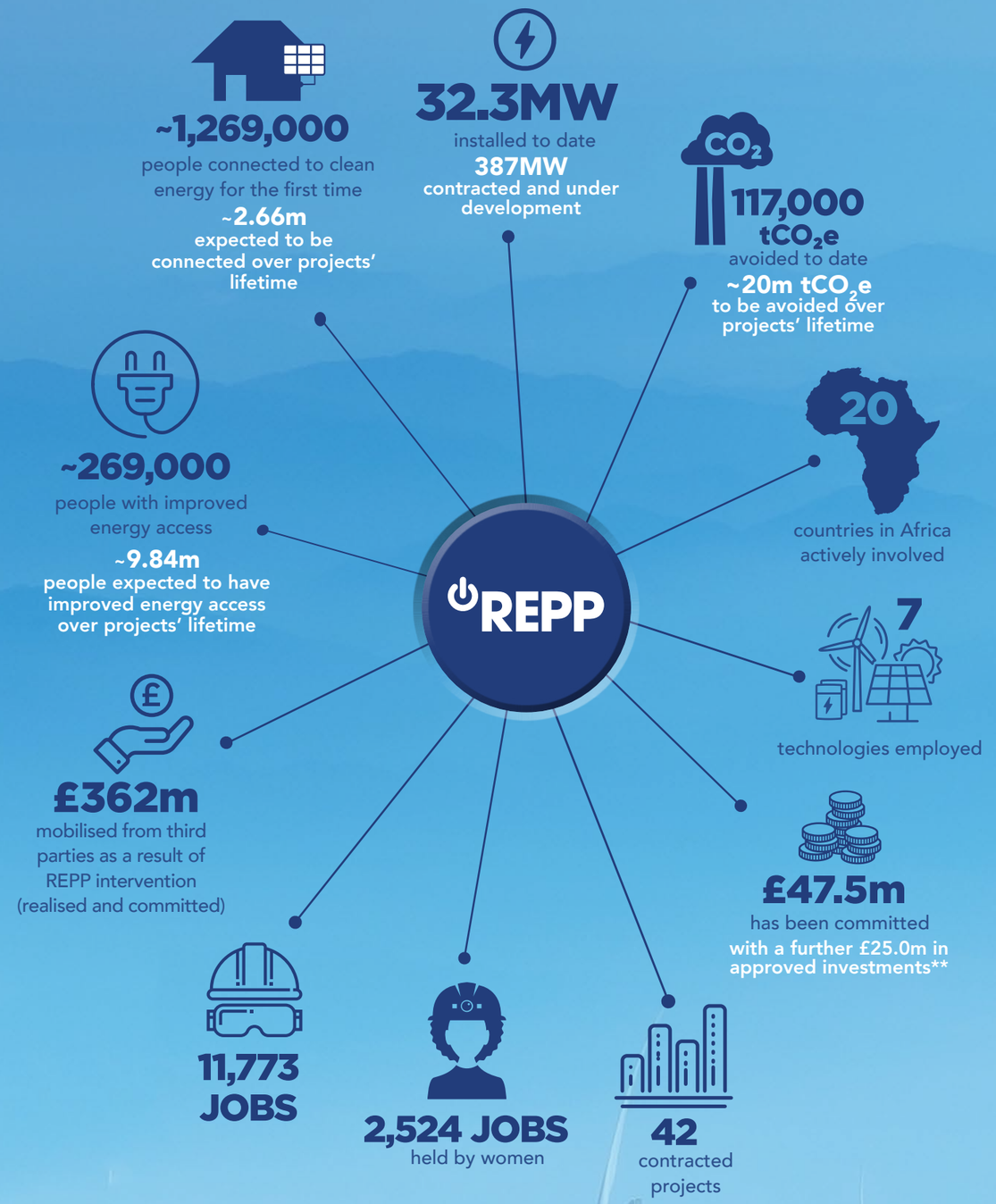
In total, REPP-financed projects accounted for **32.3MW installed renewable energy capacity** as of 31 March 2023, with 387MW contracted and under development.

Africa's small-scale decentralised renewable energy sector has enormous potential for helping to deliver universal energy access and mitigate climate change but is facing fresh challenges as a result of COVID-19 and the war in Ukraine. With supply chains severely disrupted and many of the central banks continuing to push up interest rates, it is increasingly difficult and expensive for developers to complete projects or start new ones as they face the triple challenge of supply shortages and the increased cost of both those supplies and project financing.

REPP has a key role in responding to these challenges through its practical and flexible approach to funding and by having a full financing toolbox that is capable of unlocking projects at its disposal.

REPP HIGHLIGHTS BY NUMBERS - ACTIVITIES SO FAR

Figures reflect the cumulative performance of all currently contracted projects as of 31 March 2023 unless otherwise stated. *



* Impact from REPP projects is not attributed proportionately to the amount of REPP's investment since REPP funding is additional in nature and the projects funded would not have occurred or would have been substantially delayed in the absence of REPP funding. REPP's funding is therefore critical for helping to realise viable projects and de-risking the investment to attract additional funding and to stimulate sectoral development.

**Approved investments refers to transactions approved by REPP's Investment Committee but not yet formally contracted as of 31 March 2023.

! The forecasts provided in this report are forward-looking statements that necessarily involve known and unknown risks and accordingly are not guarantees of future performance and actual outcomes may differ.

WELCOME

This December will mark eight years since the UK-funded Renewable Energy Performance Platform (REPP) was formally incorporated, with a mission to catalyse the growth of Sub-Saharan Africa's renewable energy industry. The end of the year will also see the conclusion of REPP's investment period, and the beginning of a new chapter centred around portfolio management and exits.

Looking back at how REPP has progressed under the expertise of its investment manager Camco, it is hugely satisfying to take stock of the pivotal role it has had in both building the region's renewable energy sector and improving livelihoods. As you will read in this report, close to 1.3 million people have been connected to electricity for the first time as a direct result of REPP's investments, with a further 800,000 expected to be connected as the platform's off-grid portfolio matures. This is having a transformational impact on people's lives, from enabling households to reduce or replace the use of harmful fossil-fuel based energy sources such as kerosene, to providing opportunities for the productive use of energy leading to increased income generation, more jobs and climate resilience.

Since 2015, REPP has committed GBP 47.5 million to more than 40 renewable energy companies and/or projects spanning 20 countries. This has not only enabled these entrepreneurs to expand and thrive but has helped lay the foundations of a vibrant renewable energy sector as a whole, which is giving other investors increasing confidence to enter the market. As of 31 March 2023, nearly GBP 362 million had been mobilised from third-party investors in REPP-financed companies and projects, including a commitment announced by UK government-backed investor Gridworks in December 2022 to invest up to USD 50 million (~GBP 40 million) in run-of-river hydropower developer and REPP investee Virunga Power. The funding in this instance will be instrumental for helping the company to deliver on its exciting expansion plans to bring reliable and sustainable electricity to rural communities and businesses in East and Southern Africa.

With several REPP-financed projects continuing to mature or begin commercial operation, their impact on climate mitigation is steadily increasing. By the end of the reporting period, greenhouse gas emissions avoided through all currently contracted projects had nearly doubled year on year to just under 117,000 tonnes. This is set to increase exponentially over the lifetime of the projects to approximately 20 million tonnes avoided - roughly equal to all of the carbon sequestered by 330 million tree seedlings grown for 10 years.

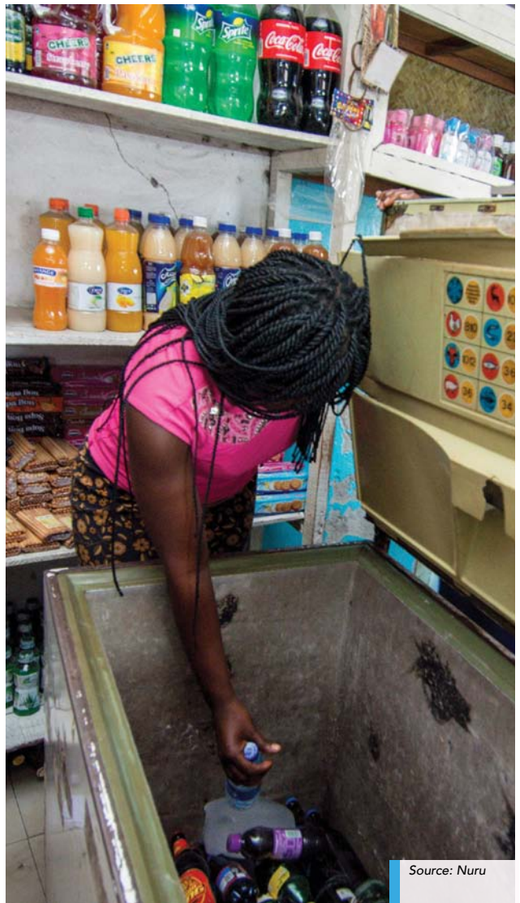
During the reporting period, Camco completed on a number of exciting new deals, including a USD 500,000 (~GBP 400,000) investment in ground-breaking solar company Nuru, which is planning to build 13.7MWp of isolated solar-hybrid grids in the Democratic Republic of the Congo. The convertible loan note helped bridge a financing gap in the build-up to the company's USD 40 million (~GBP 32 million) Series B equity fundraise, and as of the time of writing, Nuru had closed on the raise, with REPP investing a further USD 5.5 million (~GBP 4.4 million) in equity.

In September 2022, REPP converted its shares in long-time investee PEG Africa into Series D shares in UK-founded data-driven platform Bboxx, following Bboxx's acquisition of PEG. During the same month, REPP completed another successful investment exit, recovering its investment in mini-grid developer ARC Power while continuing to support the Rwanda-based company through a partial equity conversion.

It is clear from the key performance indicators that REPP has left an indelible impact on Sub-Saharan Africa's renewable energy industry and its people. But there is still so much more work to be done to further build the sector and crowd in the levels of private finance needed to seal a low carbon future for the region and achieve universal energy access in line with the Sustainable Development Goals and the Paris Agreement. With REPP's active investment period drawing towards a close and the platform's focus shifting towards portfolio management, it is with growing excitement that we follow Camco's plans for REPP 2, a private debt fund that builds on the legacy of REPP and which is structured as a blended finance facility to provide the appropriate risk/return profiles to attract investment at scale.

REPP Board of Directors

Source: Nuru


Source: Nuru


Source: Marco Borero

A WORD FROM THE FUNDER

The UK is reinvigorating its leadership on international development, fighting to reduce poverty and boost climate security.

Private sector investments are critical for generating the resources needed to provide affordable, reliable and clean energy for all and strengthen energy security in low- and middle-income countries. Increasing energy access while reducing emissions is essential for sustainable development.

REPP has been working to achieve these aims since 2015. Supported by UKAID, REPP has provided financial support and technical assistance to private sector developers of small-scale renewable energy projects across Sub-Saharan Africa, including solar, hydro, wind and geothermal power projects.

Working with entrepreneurs, local investors and governments, REPP has enabled projects to progress that might otherwise have struggled to get off the ground because of lack of access to finance, creditworthiness or regulatory and capacity constraints.

Through the projects that it supports, REPP contributes to the delivery of the Sustainable Development Goals of increasing energy access and the supply of renewable energy, whilst also driving gender equality through its investments and the participation of women at all levels of decision-making. In tandem, they support decarbonisation in line with Nationally Determined Contributions (NDC) targets.

REPP's investments have helped provide clean energy access to more than 1.2 million first-time users of electricity across Sub-Saharan Africa, including in some of the most energy poor countries.

Its investment in solar company Nuru is helping the Democratic Republic of the Congo reach its NDC target to increase renewable energy capacity and decentralise supply by building the first solar PV isolated grids in the country. In Kenya and Nigeria, REPP's USD 2 million investment in PowerGen supports solar mini-grids, providing clean energy to people and their microbusinesses, and the implementation of the countries' NDC objectives to increase renewables-based generation, expand energy access and strengthen energy system resilience.

REPP is mobilising additional climate finance into these underserved sectors by demonstrating their viability. UK-backed Gridworks announced a USD 50 million refinancing investment in 2022 for REPP-financed hydropower developer Virunga Power, which is operational in Kenya, Burundi and Zambia. And REPP is working with project developers and financiers to strengthen the investment ecosystem, showcased at the 7th World Bank's ESMAP Action Learning Event conference in Nairobi earlier this year.

I would like to commend the REPP team and delivery partners for their achievements in the last seven years, highlighted in this report, and look forward to next year's progress.

Claire Innes

Interim Head of Department, Private Sector and Capital Mobilisation Department
Foreign, Commonwealth and Development Office

Find out more about the UK's International Climate Finance on page 50.

A WORD FROM THE MANAGER

Over the seven years of being REPP's investment manager, we have seen first-hand how the market for small-scale and decentralised renewables in Sub-Saharan Africa has evolved steadily and are proud to have been part of that evolution.

From the beginning, we understood that – with most countries' national grids underdeveloped and unreliable - the only way to solve the region's energy access challenges and bring about a just transition would be through the growth of its nascent decentralised renewables sector.

We also knew that despite the sector's promise, REPP and other like-minded investors faced an enormous challenge in breaking down the barriers that clean energy entrepreneurs were facing and which were stifling progress. To grow the sector would mean drastically increasing investment flows and building the capacity of developers at a local level, as well as working with target countries to adapt more enabling regulatory environments for both developers and investors.

The UK government, as REPP's sole funder, understood this and through its vision for helping to build Sub-Saharan Africa's small-scale renewable energy sector, gave Camco the freedom to take the calculated risks needed to get the sector out of the starting blocks.

So, we began investing heavily in the innovative and typically untested business models of emerging solar PV mini-grid developers and solar home system providers, as well as small-scale independent power producers. Although some failed, many didn't and over a short period of time, several of our investments through REPP started yielding real results in the form of completed projects and tangible benefits to the communities they served.

These successes acted as the proof of concept that other, more intrinsically risk-averse investors needed to have the confidence to co-invest. At the last count, REPP's investments had crowded in an additional GBP 362 million for REPP investees and their projects. And investments have also been increasing across Africa's renewable energy sector as a whole, with solar PV capacity growing at an average compound annual growth rate of 54% between 2011 and 2020, and wind at 22.5%.

With REPP's investment period terminating at the end of this year, Camco has been giving a lot of thought as to how to build on the platform's successes and many lessons learned. To create the necessary investment flows to now take the sector to scale, it is imperative to attract commercial investors.

To help make that happen, we have designed and are currently raising funds for REPP 2, a private debt fund focused on renewable energy investment in Africa and which draws on Camco's experiences and expertise as REPP's investment manager. Structured as a blended finance facility, REPP 2 seeks to invest in the decentralised renewable energy projects with the highest growth and impact potential, and which – critically - offer the attractive financial returns demanded by the private sector.

We look forward to telling you more about REPP 2 in the coming months, but for now we hope you enjoy reading this report and catching up on the many achievements and developments of REPP's investees and their projects over the reporting period.

Benjamin Hugues

Investment Director and REPP Lead
Camco

ABOUT REPP'S MANAGER

Camco is a climate and impact fund manager, leading the clean energy transition in emerging markets. Camco's experienced team is based in offices in Accra, Auckland, Helsinki, Johannesburg, London, Nairobi, Sydney and Toronto and is united by its passion for funding the clean energy transition with a hands-on commercial approach.

Camco excels in fund formation and advisory, asset management and monitoring. It has managed several climate investment portfolios, including REPP, and is an accredited entity of the Green Climate Fund. The company combines:

- on-the-ground knowledge and origination capabilities;
- disciplined structuring, execution and portfolio and risk management;
- diligent fund and asset management;
- strong integrity, environmental and social safeguards, and active gender mainstreaming;
- considered and pragmatic monitoring and evaluation; and
- project development expertise.

Unlike many fund managers, Camco has direct experience with both project development and the creation of policy and regulatory frameworks. Its team places high value on its local presence and experience, which enhances its ability to deliver on fund management mandates.

Camco was formed in Nairobi in 1989, and since then has supported over 200 projects in 30 countries worth USD 15 billion. Its overall realised and expected impact includes:

- 1.6GW renewable energy installed and in development;
- USD 3.6 billion funding mobilised;
- 18.6 million people with new and improved power connections; and
- 79 million tCO_2e abated

Camco is a signatory to UN Global Compact and has adopted the highest standards of financial and ethical conduct through related policies and monitoring.

Earlier this year, Camco was featured in ImpactAssets 50™, the world's best known database listing fund managers who have consistently demonstrated a commitment to delivering social and environmental impact. The listing is recognition of Camco's work as a leading climate and impact fund manager in emerging markets. Camco was also listed as one of 2023's 1,000 fastest growing companies in Europe in the Financial Times and Statista's annual ranking.

camco
A BRIGHTER FUTURE, TODAY

Source: Voltalia

ABOUT REPP

The Renewable Energy Performance Platform (REPP) is the leading investment platform for small-scale distributed renewable energy across Africa. The climate fund was set up in 2015 with the primary purpose of accelerating Africa's transition to a sustainable development pathway, including mitigating climate change, by providing flexible capital to project developers and demonstrating operational feasibility to other investors and lenders.

REPP is managed by Camco, a proven climate and impact fund manager that develops and employs innovative financing tools and approaches to help developers access the necessary finance and expertise to implement their projects and grow. It is funded by the UK's International Climate Finance (ICF) through the Foreign, Commonwealth and Development Office (FCDO).

Since inception, REPP has been successfully mobilising the private sector's development of - and investment in – renewable energy projects across Sub-Saharan Africa. And by developing markets that are both replicable and scalable by the wider private finance community, it has helped lay the foundations for the sector's rapid and far-reaching expansion.

REPP was originally conceived by UN Environment and the European Investment Bank (EIB) in response to the UN's Sustainable Energy for All initiative, which seeks to ensure universal energy access and double renewable energy's share in the global energy mix.

REPP's Board is responsible for the overall direction and strategy of the programme. Its members are:

- Peter Coveliers, Independent | Head of Group Corporate Programmes and Institutional Business Development, European Investment Fund
- Daniel Farchy, Independent | Investment Officer, EIB (resigned 20 December 2022)
- Andrew Lucas, Independent | Deputy Team Leader - Green Finance, Private Sector and Capital Markets Department, FCDO
- Eric Usher, Independent | Head, UN Environment Finance Initiative

REPP's Investment Committee (IC) is appointed by, and accountable to, the Board and is responsible for deciding on investment proposals and ensuring that investments are compliant with REPP's policies and procedures and are aligned with its strategy and support policies. The IC also oversees the monitoring of the performance of projects, investments and the portfolio as a whole. Its members are:

- Alfred Helm, Corporate Finance Adviser within ICF, Department for Energy Security and Net Zero (DESNZ)
- Dirk Roos, Head of Department, Energy Transition Programmes, EIB
- Geoff Sinclair, Managing Director, Camco
- Shelmith Theuri, Off-Grid Energy Access Advisor

WHY REPP?

The UN's Sustainable Development Goal 7 (SDG7) calls for affordable, reliable, sustainable and modern energy for all by 2030. But currently, nearly 570 million people in Africa still lack access to electricity, and with the continent's population booming, the concern is that the situation is going to get worse before it gets better. At the same time, many African countries' economies are experiencing rapid growth, further increasing the demand for energy.

Recent research cited by the World Economic Forum shows how emerging market and developing economies (EMDEs) accounted for over 95% of the increase in carbon emissions during the past decade, and how this share is expected to rise further due to increased energy demand in EMDEs as a result of population growth and economic prosperity. To meet SDG7 and maintain economic expansion in Africa, a prodigious and wide-scale increase in energy generation is therefore essential. But unless this happens without increasing GHG emissions, Africa's energy transformation is going to contribute significantly to climate change and reduce the world's prospects of reaching net zero by 2050.

The African grid of the future will require a mix of clean technologies, with different financing needs. Africa has abundant natural resources for a clean energy transition, but the amount of investment making its way into the continent's renewable energy sector is dwarfed by funding for centralised, fossil-fuel powered grid systems, which is serving to lock Africa – and by extension, the world – into a high-carbon future. Centralised grids are often not the best way of addressing Africa's energy access problems and resilience to climate change either, particularly in rural areas where connecting to the grid is usually slow and expensive and which are often prone to weather extremes.

By contrast, small-scale decentralised renewable energy solutions are typically better suited for serving rural populations' needs. Off-grid technologies such as solar home systems and solar PV mini-grids and small, rural on-grid projects by independent power producers (IPPs) have proven to be easier, faster and increasingly cheaper than rolling out the national grid and building very large power plants. They also typically provide a more reliable source of quality electricity, improve local air quality and, very importantly, support countries' national climate action targets set out in their Nationally Determined Contributions (NDCs).

Small and medium-scale on-grid technologies such as small on-shore wind and run-of-river hydro also provide low-carbon solutions for bolstering existing central grids and increasing capacity, while also supporting countries' NDCs. They also support the power networks and make them more resilient to climate change.

ENABLING CHANGE

Despite the many advantages of decentralised renewable energy solutions, investment in them remains low. While there is lots of funding available for large projects, there are major gaps for projects at the other end of the scale, with developers facing major obstacles securing finance. This is due to:

- **Small ticket size -** funding opportunities are typically limited to the largest and most bankable projects;
- **High perceived risks -** perceived risks of renewable energy projects, including the uncertainty of the policy and regulatory environment, are a disincentive for investment; and
- **Decentralised developer network -** developers of small-scale renewables are usually small and local developers (as opposed to large IPPs, which are often multinationals).

Developers also rarely have the start-up capital to clear the first hurdles towards financial close and often lack the necessary expertise or capabilities to successfully finance their projects.

Many feasible projects are failing to progress as a result, with millions of people missing out on the benefits of small-scale distributed renewable energy. REPP is addressing this problem directly by establishing a wide range of viable and effective financing models to help developers overcome barriers to finance – and making developers' projects attractive, thereby crowding in private investors.

REPP provides financing in the form of debt and equity to projects that are shown to be additional, meaning that its investments stimulate sectoral development that would otherwise lag or not occur. Through the projects it supports, REPP is transforming the scale of action to make communities and the environment more resilient to climate change. It does this by innovating within recognisable finance structures so that commercial investors receive better adjusted risks in this asset class and in Africa, meaning more funds will flow in this direction in future. Read how REPP is performing on page 23.

OUR IMPACT

SUSTAINABLE INVESTMENT OBJECTIVE: CLIMATE CHANGE MITIGATION

REPP's objective is to accelerate Africa's transition to a sustainable development pathway, including mitigating climate change, through its support for small-scale decentralised renewable energy projects and developers. It is achieving this by stimulating the development of a vibrant, networked and viable market for the sector, with two specific aims: to contribute towards the UN's Sustainable Development Goal (SDG) 7 – ensure access to affordable, reliable, sustainable and modern energy for all, and SDG 13 – limit and adapt to climate change; and to mitigate climate change in line with the Paris Climate Agreement and the International Panel on Climate Change (IPCC)'s call for a 50% reduction in carbon emissions by 2030 to limit global warming to 1.5˚C above pre-industrial levels.

Investment in renewable energy is also an enabler for inclusive socio-economic development and contributes positively to improved health and wellbeing of project communities. As such, REPP is committed to demonstrating the technical and financial viability of innovative and scalable climate-resilient infrastructure that supports these co-benefits while contributing to the transition to net zero economies in the countries in which it operates. See the SDG table on page 19 for more on how REPP is helping to advance progress on these wider objectives.

Since REPP's inception, 100% of its investments have been in economic activities that qualify as environmentally sustainable under the EU Taxonomy Regulations (2020), namely electricity generation using solar photovoltaic technology, wind power, run-of-river hydropower and geothermal energy. Details of asset allocations are presented on pages 23-24. Several investments also have social co-benefits, as presented in the section on REPP's contribution to the SDGs. REPP is aligned with 2X Challenge's gender lens investing criteria and 36% of its investments are in female-owned and/or led companies (see Promoting Gender Equality section on page 30).

Impact from REPP projects is not attributed proportionately to the amount of REPP's investment since REPP funding is additional in nature and the projects funded would not have occurred or would have been substantially delayed in the absence of REPP funding. REPP's funding is therefore critical for helping to realise viable projects and de-risking the investment to attract additional funding and to stimulate sectoral development.

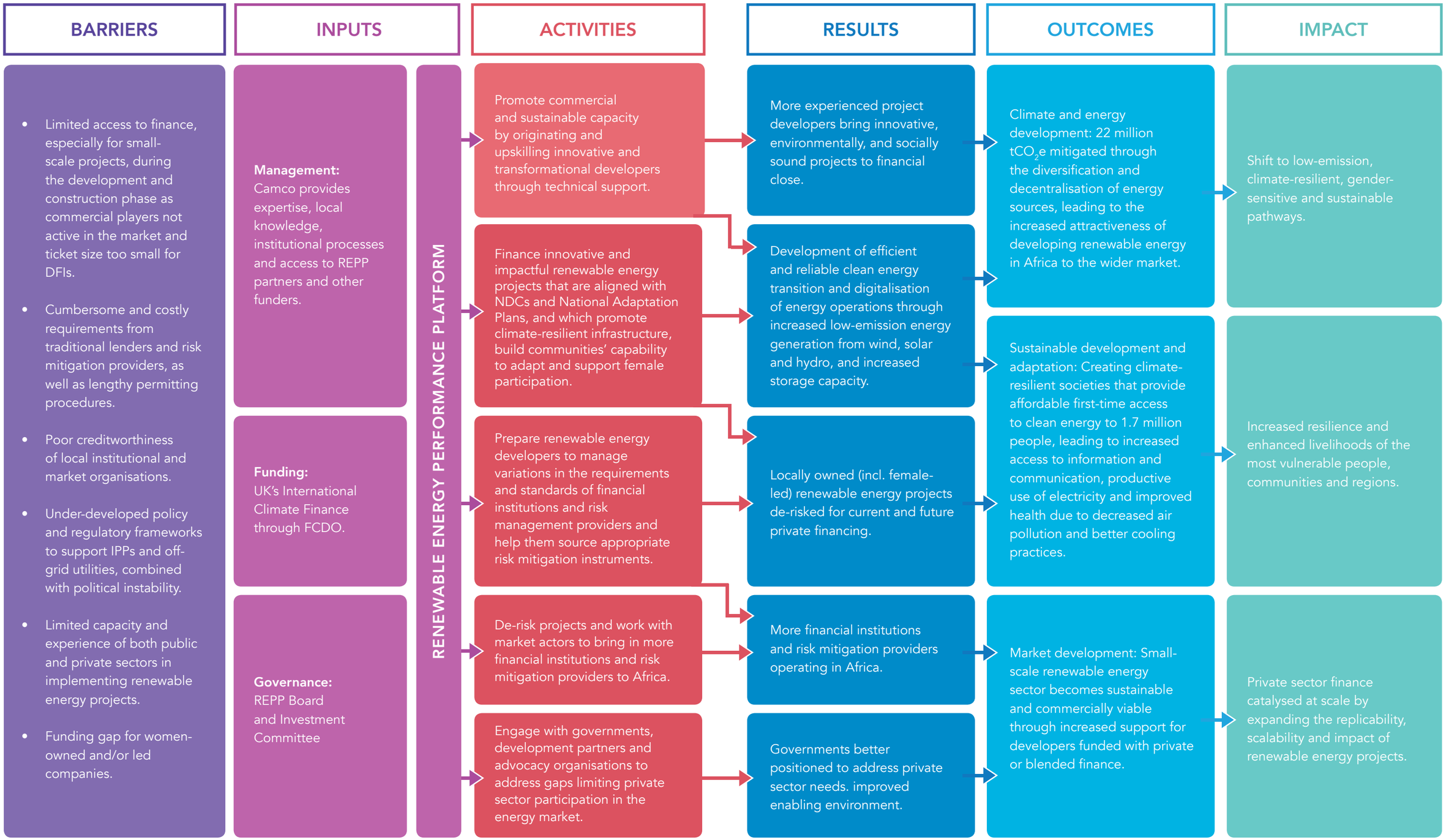
THEORY OF CHANGE

REPP works to mitigate climate change by investing in innovative and sustainable renewable energy solutions and new market segments. This involves overcoming barriers, such as limited availability of financing and perceived and actual political and regulatory risks (see page 13), and creating a high volume of projects, as well as adapting proven financing mechanisms to unfamiliar country contexts, which collectively are giving investors more confidence and incentive to enter the market. De-risking projects in this manner is crowding in private finance and further strengthening the market and reducing future risk.

REPP's flexible financial approach, coupled with technical assistance and the risk mitigation support offered by its partners, is creating the commercial interest necessary to take renewable energy technologies to scale and leading to a shift towards low-emission, sustainable and climate-resilient development pathways in Africa, as presented overleaf.

Source: Nuru

REPP'S THEORY OF CHANGE



Source: Nuru

Source: Bboxx

Source: OnePower Ltd

SUSTAINABLE DEVELOPMENT GOALS

ALL 42 PROJECTS
directly support:

20 PROJECTS
also support:

13 PROJECTS
also support:

1 PROJECT
also supports:

SDG	Relevance	Underlying targets	REPP's contribution
7 AFFORDABLE AND CLEAN ENERGY		7.1, 7.2	• Supports affordable clean energy access by investing in innovative decentralised renewable energy solutions, such as PAYG solar mini-grids and SHS, targeting off-grid communities. • Improves reliability of electricity supply and increases the share of renewable energy in the energy mix by investing in grid-connected renewable energy projects.
13 CLIMATE ACTION		13.1, 13.2	• Directs climate finance towards renewable energy activities in line with the Paris Agreement and project countries' NDCs. • Helps to strengthen a country's resilience and adaptive capacity to climate-related hazards through decentralisation, diversification and hybridisation of energy sources and technologies to buffer against supply disruption.
5 GENDER EQUALITY		5.5	• Supports women entrepreneurship by investing in women-owned or managed businesses. • Works directly with investee companies to help them improve gender equality status in the company and project implementation through development of gender action plans.
17 PARTNERSHIPS FOR THE GOALS		17.3	• Mobilises private (and public) capital towards supporting sustainable development in developing countries.
1 NO POVERTY		1.4, 1.5	• Supports access to basic services by providing affordable energy access to households and critical services that improve the livelihoods of people living in poverty. • REPP-financed projects create decent jobs that respect labour rights and improve workers' skills. • Helps build a country's resilience towards climate change through investment in decentralised renewable energy systems.
11 SUSTAINABLE CITIES AND COMMUNITIES		11.1	• Supports the provision of affordable, inclusive, sustainable and low-carbon energy services to communities through investment in on and off-grid renewable energy projects. • Provides energy infrastructure and financing solutions to under-served communities.
3 GOOD HEALTH AND WELL-BEING		3.4	• Promotes good health and wellbeing by supporting clean energy solutions that at least partially replace the use of kerosene, diesel, charcoal and wood that are known to increase the risk of or to aggravate respiratory diseases.
8 DECENT WORK AND ECONOMIC GROWTH		8.4, 8.5	• Supports decent work conditions by requiring all REPP-financed projects and their developers establish a IFC Performance Standard-compliant environmental and social management system to ensure a high level of environmental and social integrity.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE		9.1	• REPP invests in the development of quality, reliable, sustainable and resilient infrastructure which supports economic development and human well-being, with a focus on affordable and equitable access for all.

Further information about SDG targets can be found on page 59.

MEASURING OUR IMPACT

REPP uses **key performance indicators** (KPIs) to measure each project's performance against set targets in accordance with the key performance indicator methods of the UK's International Climate Finance. Performance reporting is based on objective, self-reported data provided by REPP investees, including:

- total **installed capacity in megawatts (MW)** of clean energy generated by a project, measured as rated power output when operational;
- annual net **amount of greenhouse gas (GHG) mitigated** through project intervention, estimated relative to the assumed business-as-usual emissions scenario and measured in tonnes of carbon dioxide equivalent (tCO_2e) in line with IFC KPI 6: Net Change in Greenhouse Gas Emissions;
- **number of people connected to clean energy** for the first time as a result of REPP's intervention (relevant to off-grid projects only);
- total amount of REPP **funding committed** to projects in GBP million;
- volume of **finance mobilised** from third-party sources for climate change mitigation as a result of REPP's intervention (in GBP million);
- number of REPP-supported companies with **innovative business models;**
- number of projects with **improved ESG practices;** and
- amount of **funding aligned with 2X Challenge's gender lens investing criteria.**

The above KPIs are aligned with the SDGs and their underlying targets, as well as Impact Reporting and Investment Standards (IRIS) and other impact accounting metrics from the Global Impact Investing Network and indicators for principle adverse impacts in line with the EU Taxonomy Regulations (2020). In addition, investees measure and self-report back to REPP on important environmental and social parameters identified in their ESIA on a continuous basis, including but not limited to:

- **employment figures** by gender, skill level and nature of employment;
- occupational health and safety **incidents;**
- **training** events;
- **grievances** raised and addressed;
- stakeholder **consultations;**
- **waste management;** and
- **mitigation measures** undertaken.

Investees undergo an in-depth **annual review to verify the accuracy of their reported data** and the implementation status of their ESMS, as well as to check their compliance with local laws and regulations.

Source: Rift Valley Energy Group

IN FOCUS: SCALING MINI-GRIDS

Africa's solar mini-grid sector has huge potential to significantly reduce Africa's energy access deficit and support the UN's energy access and climate action goals SDG7 and SDG13. In March 2023, REPP co-hosted the Mini-grid CEO Roundtable with Africa Minigrid Developers Association (AMDA) in Nairobi, bringing project developers and investors together for frank discussions on some of the fundamental challenges that are currently inhibiting sector growth, as well as to facilitate knowledge sharing and for the co-creation of possible solutions.

The closed-door event formed part of The World Bank's ESMAP and AMDA's 7th Mini Grid Action Learning Event (ALE) and facilitated peer-to-peer exchange and learning between REPP investees and other AMDA members, as well as providing them with the opportunity to network with a broad group of mini-grid funders.

In May 2023, REPP and AMDA published a position paper, *How to Unlock Financing for Mini-Grids in Africa at Scale Through Multi-Stakeholder Collaboration*, which set out a series of recommendations for ramping up financing for mini-grids in Africa and which was based on insights shared during the roundtable. Achieving scale will require:

- Agreeing on a common goal and definitions of scale and impact, which is critical for accelerating mini-grid deployment in line with SDG7 targets;
- Unlocking investment flow by improving the transparency, collaboration and trust between developers and funders, as well as within these stakeholder groups, with each of them playing their part towards the achievement of SDG7;
- Improving efficiency of deal flow by streamlining investment, impact monitoring and regulatory processes; and
- Providing technical assistance - along with working capital - to support the growth of developers' internal staffing capacities, particularly with regards to sound financial and impact management.

Source: OnePower Ltd

PERFORMANCE OF SUSTAINABILITY INDICATORS

As of 31 March 2023, REPP had contracted 42 projects spanning 20 countries across Africa and employing seven technologies, namely solar home systems, solar PV mini-grids, solar PV-powered batteries, grid-connected solar PV, geothermal, run-of-river hydroelectric power and on-shore wind.

The following charts and infographics provide an at-a-glance overview of REPP's core activities, and accomplishments to date, including the programme's impact in relation to the UN's SDGs and countries' NDCs. REPP's overall impact since 2016 is detailed in the table on pages 27-28. Its audited annual financials are presented on pages 52-54.

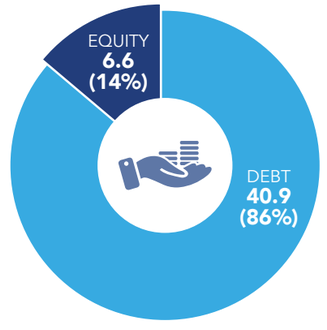
The charts presented in this section reflect the actual performance of all 18 operational projects and the forecast cumulative performance of all 42 contracted projects as of 31 March 2023, as well as the targets set for REPP.

REPP'S TOP INVESTMENTS DURING 1 APRIL 2022 TO 31 MARCH 2023:

PROJECT NAME	TECHNOLOGY	COUNTRY	CAPACITY (MW)	FUNDING INSTRUMENT	GBPm
Bboxx see page 35	Solar home systems	Burkina Faso, Côte d'Ivoire, DRC, Ghana, Kenya, Mali, Nigeria, Rwanda, Senegal, Togo	16.2	Equity	2.3
ARC Power see page 40	Solar PV mini-girds	Rwanda	2.24MW	Equity (partial exit)	0.3
Nuru see page 36	Solar-hybrid isolated grids	DRC	13.7	Convertible loan note	0.4*

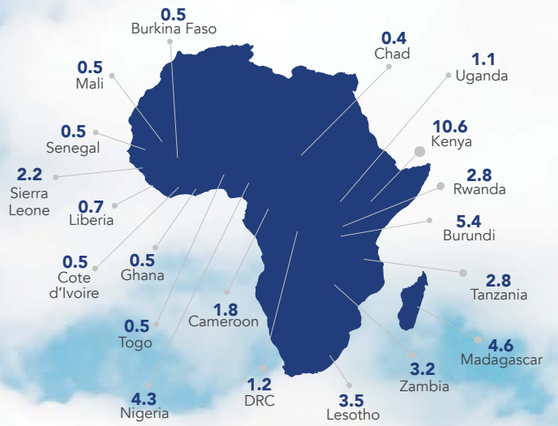
*At the time of writing, Nuru had closed on its USD 40 million (~GBP 32 million) Series B equity fundraise, with REPP investing a further USD 5.5 million (~GBP 4.4 million) in equity.

PORTFOLIO BY ASSET CLASS (GBPm)



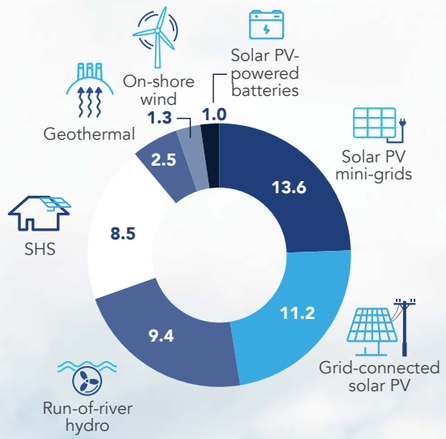
COMMITTED INVESTMENT BY COUNTRY

In GBPm



COMMITTED INVESTMENT BY TECHNOLOGY

In GBPm



COMMITTED INVESTMENT BY FINANCIAL STRUCTURE

DEVELOPMENT PHASE CAPITAL		GAP FUNDING
GBP 2.7m	Committed	GBP 44.8m
	In documentation*	GBP 25.0m

* Approved investments refers to transactions approved by REPP's Investment Committee but not yet formally contracted as of 31 March 2023.

CLIMATE RISKS IN AFRICA

Table shows the main climate hazards and climate change impacts identified in Sub-Saharan Africa and includes an assessment of the likelihood of each of these hazards, the expected severity of the impacts and overall risk score across REPP's investment portfolio. The assessment was based on IPCC's Assessment Report 6 on Africa and regional factsheets, as well as US AID's regional climate risk profiles.

HAZARD	TIMEFRAME	LIKELIHOOD	SEVERITY	OVERALL RISK LEVEL	COMMENT
Temperature increase (chronic)	Short - long term	Moderate	Moderate	Moderate	Mainly impacting solar generation
Mean precipitation (chronic)	Medium - long term	High	Low	Low	
Drought (acute)	Short - long term	High	Moderate	Moderate	Impacts hydropower resource availability only
Flooding (acute)	Short - long term	High	Moderate	Moderate	Impacts mainly hydropower infrastructure
Mean wind speed (chronic)	Medium - long term	Moderate	Low	Minor	
Tropical cyclone wind speeds (acute)	Medium - long term	Moderate	Moderate	Moderate	South-Eastern and Eastern Africa only. Damage to energy infrastructure
Fire weather conditions (acute)	Short – long term	Moderate	High	Moderate	

Source: Nuru

PERFORMANCE AGAINST CORE KPIs FOR CONTRACTED PROJECTS

People with first-time access to energy

Forecast: **2,101,461**
Target: **1,700,000**

Achieved: **1,269,086**

GHG emissions avoided over lifetime of projects

Forecast: **19,993,916 tCO_2e**
Target: **22,000,000 tCO_2e**

Achieved: **116,589 tCO_2e**

Increased generation capacity

In development: **387MW**
Target: **138MW**

Achieved: **32.3MW**

Finance mobilised

Target: **GBP 335m**

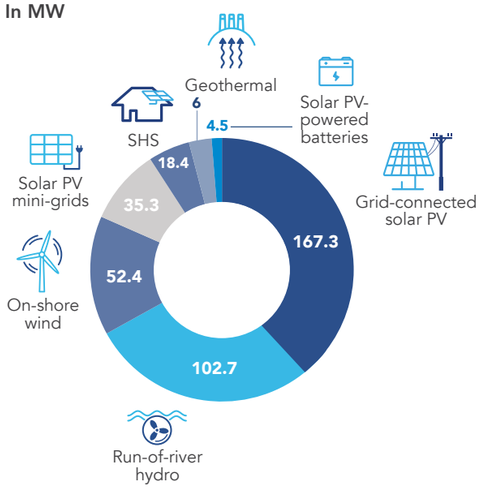
Achieved & planned: **GBP 362m**

Improved livelihoods

Direct job creation: **11,773**
Households using renewable energy products to support microbusiness: **8,473**
Number of critical services supported: **188**

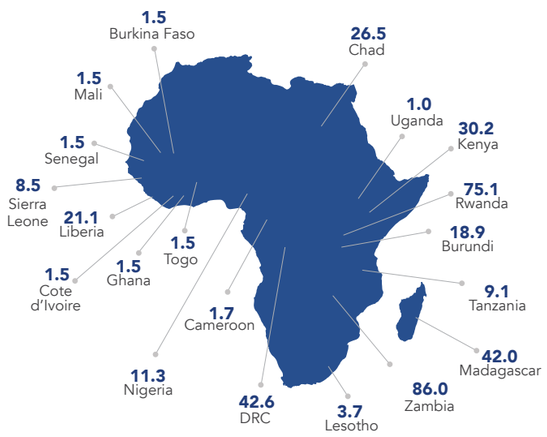
CAPACITY BY TECHNOLOGY

In MW



CAPACITY BY COUNTRY

In MW



Source: Mobile Power Ltd.

WHAT						HOW MUCH									DATA RISK
		ALIGNMENT				ACHIEVED						FORECAST	TARGET		
Focus area	Performance indicators	SDG	SDG target	IRIS+	SFDR /PAI number	2018	2019	2020	2021	2022	Q1/2023	2023	2022	2023	
Principles of governance	Incidents of corruption reported	16	16.5	-	-	NR	NR	NR	0	0	0	-	MNT	MNT	The risk on reported impact is considered low as REPP reports on actual impact achieved. The data quality is considered high as most parameters are directly A1:Q36 and reported by investee companies. Number of people connected for the first time to clean, affordable electricity is calculated based on sales/active customers and a conservative average household size of five people. GHG emissions are calculated from kWh produced and country-specific grid emission factors using the latest IFI Dataset of Harmonised Grid Factors. For mini-grids and SHS projects, emissions are calculated based on the Clean Development Mechanism methods AMS-I.A.: Electricity generation by the user and AMS-I.L.: Electrification of rural communities using renewable energy. To ensure quality electricity supply, off-grid renewable energy projects are allowed to use diesel for back-up electricity generation to buffer for seasonal variability in line with REPP's Environmental and Social Policy and Procedures [https://repp.energy/wp-content/uploads/2021/10/210701_REPP-Environmental-and-Social-Policy-and-Procedures.pdf]. The scope 1 emissions are calculated from diesel-based electricity generation. Scope 2 and 3 emissions are considered negligible for renewable energy investments. While few solar PV projects are implemented in water scarce areas, their impact on water usage has been assessed in the ESIA as minimal. Emissions to water are considered negligible for renewable energy investments.
	People trained on anti-corruption	16	16.5	-	-	NR	NR	NR	64	23	N/A	-	MNT	MNT	
	Incidents reported to hotline	16	16.5	-	-	NR	NR	NR	2	1	0	-	MNT	MNT	
	ESIAs/ESMSs conducted	8	-	OI1254		NR	NR	NR	6	4	2	-	MNT	MNT	
People	Injuries	8	8.8	OI3757	2	NR	NR	7	49	46 [1]	13	-	MNT	MNT	
	Fatalities	8	8.8	OI6525	2	NR	NR	2	3	0	0	-	MNT	MNT	
	Community grievances raised	-	-	-	-	NR	NR	NR	NR	193	43	-	MNT	MNT	
	Employee grievances raised	-	-	OI1042	-	NR	NR	NR	NR	69	25	-	MNT	MNT	
	Violations of UNGC principles and OECD guidelines	-	-	-	10	NR	NR	NR	NR	NR	0	0	0	0	
Prosperity	Projects reaching financial close	13	13.1	-	-	4	8	16	21	28	29	32	30	39	
	REPP funding committed in GBPm	13	13.1a	OD5990	-	9	18	36	44	47	48	63	65	65	
	Finance mobilised in GBPm	17	17.3	-	-	29	47	87	150	133	133	390	335	335	
	Direct job creation in each year	1, 8	1.2, 8.5	OI8869 OI9028 PI3687	-	594	1,512	2,104	2, 726	2, 360	2, 477	-	MNT	MNT	
	Skilled jobs created in each year	1, 8	1.2, 8.5	OI8869 OI9028 PI3687	-	NR	NR	255	1,420	917	1, 796	-	MNT	MNT	
	Women in the workforce	-	-	-	-	129	278	501	519	471	626	-	MNT	MNT	
	Local jobs created in each year	-	-	-	-	NR	NR	NR	1,413	1,581	2,322	-	MNT	MNT	
	People with first-time access to clean energy	1, 3, 7, 11	1.4, 1.5, 3.4, 7.1, 7.2, 11.1	PI2822 PI2845	-	60,105	174,220	581,400	843,905	1,285,385	1,269,086	1,366,798	1,400,000	1,700,000	
	Households using products to support business / microbusiness [2]	1, 8	1.2, 8.5	PI2845	-	NR	NR	6,280	5,574	3,933	8,473	-	MNT	MNT	
	Critical services supported [3]	1	1.4, 1.5	PI2822	-	NR	NR	371	447	226	188	-	MNT	MNT	
	Investments aligned with 2X Challenge criteria (GBPm)	5	5.5	-	-	NR	NR	18	16	16	17	-	MNT	MNT	
Planet	Installed renewable energy capacity in (MW)	1, 7, 13	1.5, 7.1 7.2, 13.1	PD1602	-	1	2	8	24	31.1	32.3	36	30	60	
	Greenhouse gases avoided cumulative (tCO_2e)	3, 13	13.1, 3.9	PI2764	-	1,753	5,958	22,053	49,911	101,527	116,589	173,591	90,000	180,000	
	Scope 1 GHG emissions (tCO_2e)	-	-	-	1	NR	NR	NR	NR	207	21	-	MNT	MNT	
	Scope 2 GHG emissions (tCO_2e)	-	-	-	1	NR	NR	NR	NR	NR	Negligible	-	MNT	MNT	
	Scope 3 GHG emissions (tCO_2e)	-	-	-	1	NR	NR	NR	NR	NR	Negligible	-	MNT	MNT	
	Countries whose NDCs are supported	11,13	13.2	-	-	NR	NR	14	14	16	20	-	MNT	MNT	
	Total amount of waste generated and disposed of (m^3)	-	-	OI6709	-	NR	NR	140	124	342	7	-	MNT	MNT	
	Total weight of hazardous waste (tonnes)	12	12.4.2	OI1346	9	NR	NR	-	1	-	-	-	MNT	MNT	
	Projects in ecologically sensitive areas	15	15.1.2	-	7	NR	NR	NR	2	2	2	-	MNT	MNT	
	Projects affecting IUCN Red List species	15	15.5.1	-	14	NR	NR	NR	4	4	4	-	MNT	MNT	
	Projects in water-stressed areas	6	6.4.2, 6.6.1	OI2799	8	NR	NR	NR	4	5	5	-	MNT	MNT	
	Water pollution: emissions to water	-	-	-	8	NR	NR	NR	NR	0	0	-	MNT	MNT	

MNT: Monitored, no target

NR: Not reported previously

[1] In 2022, the overall occupational health and safety (OHS) performance of investee companies was generally good. A total of 46 OHS injuries were recorded over the year, of which all were minor, with all injured employees having recovered and returned to work.

[2] Refers to small businesses run by investees' clients, such as mills, hatcheries, barbershops and shops.

[3] Refers to schools, clinics, hospitals, waterworks and water-pumping stations that have received electricity through the projects.

PROMOTING GENDER EQUALITY

The full and equal participation of women in decision-making and leadership in both the public and private sector is crucial to addressing climate change, as well as achieving affordable clean energy for all.

In August 2019, REPP adopted its Gender Mainstreaming Policy, which incentivises investee companies to integrate gender equality into their project design and operations by way of discounted pricing. To qualify for the discounts, an investee must:

- carry out a **gender equality analysis** on itself, its country/countries of operation and the targeted sector; and
- establish and implement an investee-specific **gender action plan** by identifying gender performance indicators and gender-disaggregated targets against an established baseline.

REPP works with its investees to help them to establish gender action plans, as well as providing capacity building activities and resources to support gender mainstreaming in renewable energy project planning and business operations. In 2022, REPP's manager Camco ran the Putting Women in the Spotlight webinar, which brought together a spectrum of specialists to explore today's most pertinent gender and inclusivity issues in Africa. Topics under discussion ranged from girls' lack of education and the importance of mentoring to how to improve women's safety in the workplace and the widespread need for better access to funding for female clean energy entrepreneurs.

WOMEN AND REPP

36%	9	13	2,524
Investments aligned with 2X Challenge's Gender Lens Investing criteria	Women-owned and / or managed investee companies	Women-owned and / or managed projects	Jobs held by women

Source: Marco Borero

Source: Voltalia

ENVIRONMENTAL AND SOCIAL SAFEGUARDING

REPP works closely with investee companies to ensure a high level of environmental and social integrity. Its Environmental and Social Policy and Procedures are aligned with industry best practices, namely the **IFC Performance Standards for Environmental and Social Sustainability,** the **UN Global Compact Sustainability Principles,** and the **EIB Environmental and Social Standards** covering stakeholder engagement and biodiversity and ecosystems.

All REPP-funded projects must establish an environmental and social management system (ESMS) in line with these standards and the principles set out below. As part of the ESMS, the projects are required to undergo an environmental and social impact assessment (ESIA) to identify impacts, establish mitigation plans and ensure management through continuous measurement and reporting of impact. Establishment of an ESMS is a condition of REPP funding and compliance with it is assessed on an annual basis.

Guided by its own policies, REPP applies the following principles through its work with investees:

- **Ensure sustainability:** All investees must incorporate environmental and social considerations into their project designs through project-specific ESIAs and ESMSs.
- **Do no significant harm:** In line with IFC's performance standards to promote the sustainable use of resources and give specific focus to biodiversity conservation and the sustainable management of living natural resources, any activity financed by REPP must not cause significant harm to any of the following objectives: climate change mitigation or adaptation, protection of water and marine resources, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.
- **Adopt IFC's mitigation hierarchy:** Any potential negative impact or risk to workers, affected communities and the environment should be anticipated and avoided. Where avoidance is not possible, they should be minimised or mitigated. Where residual impacts occur, these should be compensated for or offset.
- **Apply social safeguards:** IFC's performance standards have been guided by several international conventions and instruments, including those of the International Labour Organization and the UN. The standards stipulate that businesses should avoid infringing on the human rights of others and address adverse impacts they may cause or contribute to. Specific attention is given to ensuring full respect for the human rights, dignity, aspirations, culture and natural resource-based livelihoods of Indigenous Peoples, as well as labour and working conditions to protect the rights, health and safety of employees and workers.
- **Ensure ESMSs are fit for purpose:** REPP's investees must adopt a risk-based approach to ensure that environmental and social requirements and processes are commensurate with the level of risk and nature of their projects.
- **Support gender equality:** Investees are encouraged to adopt a gender-sensitive approach in their identification of social risks and impacts, and to establish activity-level gender action plans stipulated further in REPP's Gender Mainstreaming Policy.

To ensure investees' alignment with the standards and principles, REPP integrates environmental, social and governance (ESG) considerations into all of its investment decisions through:

- initial environmental and social screening and risk assessment of projects;
- due diligence prior to investment;
- assessment of projects' environmental and social impacts;
- KYC assessments to prevent corruption, money impact monitoring with key environmental and social key performance indicators.

REPP's environmental and social, anti-corruption/ integrity and safeguarding policies can be found at https://repp.energy/resource-centre/repp-policy-documents.

Source: Nuru

Source: Nuru

Source: Nuru

FEATURED INVESTMENTS

Source: Bboxx


Source: Bboxx

Bboxx is a UK-founded data-driven platform that provides its customers with access to innovative products and services, from plug-and-play solar home systems (SHS), solar-powered water pumps, clean cooking and e-mobility solutions to cash-loan funding.

In September 2022, Bboxx acquired solar home system (SHS) provider and REPP investee PEG Africa, which had become a leader in deploying and financing solar products to rural and peri-urban households and SMEs in West Africa since commercially launching in Ghana in 2015. As part of this transaction, REPP converted its shares in PEG Africa into Series D shares in Bboxx.

The move consolidated Bboxx's leading position in the market and increased its geographical footprint as it took control of PEG Africa's operations in Senegal, Ivory Coast, Ghana and Mali, bringing its total operating markets to 10 countries. For REPP, the deal highlights its continuing commitment to supporting Africa's clean energy transition and exposes the fund to a new business model as the off-grid energy access market moves towards consolidation.

At the time of the acquisition, PEG Africa had sold 250,000 units. Of these, nearly 120,000 were connected following REPP's USD 1.1 million equity investment as part of PEG Africa's USD 5 million Series C raise in 2018.

Following the successful acquisition of PEG Africa, Bboxx is making good progress on its ambition to transform the continent's utility sector through its increased presence in West Africa and by being a driving force behind access to goods and services for underserved communities. Bboxx's mission is to transform lives and unlock potential of African consumers by connecting customers with clean energy, clean cooking, smartphones, e-mobility and selected financial products – many for the first time.

In addition to the business integration that is being underpinned by Bboxx Pulse, Bboxx's proprietary fully integrated operating system, Bboxx is focused on accelerating product diversification and the company is raising new financing to fuel growth ambitions.

To date, REPP's investment in PEG Africa and subsequent investment in Bboxx has led to 128,000 units installed and in active use, connecting more than 643,000 people to electricity for the first time. This has resulted in better lighting and greater access to information through improved connectivity, and has mitigated more than 65,000 tCO_2e through the replacement of kerosene lanterns and other uses of fuels.

Location
Burkina Faso, Cote d'Ivoire, DRC, Ghana, Kenya, Mali, Nigeria, Rwanda, Senegal, Togo

AT A GLANCE

Technology: Solar home systems

Project type: Off-grid

Offtaker: Off-grid communities

KPIs

GHG emissions avoided: Target: 15,324 tCO_2e per year / **Achieved: 65,048 tCO_2e (cumulative)**

People with first-time access to clean energy: **Target: 464,000 / Achieved: 643,825**

Installed capacity: **Target: 16MW / Achieved: 4.8MW**

FUNDING STRUCTURE

Contracted date: 6 September 2022
Lending type: Equity and warrants
REPP funding: USD 2.9 million

SDGs

Country policy alignment:
Supports national electrification efforts in 10 countries. In DRC, for example, it is well-aligned with the National Development Strategic Plan 2019-2023, which calls for the increase in modern energy access to reduce the use of traditional biomass. In Kenya, it supports the Updated NDC (2020) mitigation and adaptation goals, which focus on increasing solar-based generation and abating GHG emissions by 32% by 2030. Also strongly aligned with Nigeria's 'new paradigm for rural electrification' – delivering energy access through a mix of centralised and decentralised approaches.

"We are proud to be working with REPP in accelerating energy access in Africa. The management team were very supportive in the acquisition process and we look forward to deepening our partnership with REPP who are a critical player in these markets."

Anthony Osijo, Group CFO, Bboxx Ltd

NURU

Source: Nuru

Location
Democratic Republic of the Congo

AT A GLANCE

Technology:
Solar-hybrid isolated grids

Project type:
Grid-connected

Offtaker:
Households and commercial customers

KPIs

GHG emissions avoided: 10,480 tCO_2e per year (target)

People with first-time access to clean energy: 31,695 plus c.146,300 people, 4,460 businesses and 130 critical services with improved connection (target)

Planned capacity: 13.7MWp solar, plus battery and backup diesel capacity (target)

FUNDING STRUCTURE

Signed: 20 February 2023
Funding type: Equity
REPP funding: USD 500,000*

SDGs

REPP has invested USD 500,000 to support the development and construction of a 13.7MWp portfolio of solar-hybrid isolated grids in the Democratic Republic of the Congo (DRC), with a USD 5.5 million follow-up investment expected at Series B.*

DRC is the second largest and fourth most populous country in Africa, with one of the richest endowments of natural resources globally. However, it remains one of the world's poorest countries as a result of decades of political upheaval and conflict over the resources. And with approximately 19% of the population having access to electricity – it is also one of the least electrified. The country's grid electricity generation comes predominantly from hydropower plants, which are coming under mounting pressure due to a lack of maintenance and the increased incidence of drought as a consequence of climate change.

The Nuru project, being developed by Congo Energy Solutions Limited (trading name "Nuru"), aims to close the energy access deficit while aiding the diversification and decentralisation of DRC's energy mix, in doing so supporting DRC's Strategic National Development Plan (SNDP 2019-2023) goal for increased renewable energy development.

Prior to REPP's involvement, the company had installed 1.7MWp of operating capacity, providing commercial and industrial (C&I) and residential customers in large off-grid towns with reliable, affordable and clean energy from solar PV installations. Communities in the Ndosho neighbourhood in Goma are also benefitting from solar-powered streetlights that have been installed to enhance safety and security in a densely populated area with high levels of crime. The streetlight project was partially funded by the sale of Peace Renewable Energy Credits (P-RECs) to Microsoft in a deal facilitated by Energy Peace Partners and 3Degrees in 2020.

REPP's initial investment of USD 500,000 takes place alongside funding from Proparco and E3 Capital) and will bridge a financing gap in the build-up to Nuru's USD 40 million Series B equity fundraise, helping to bring the deal to financial close. The residual REPP funds (USD 5.5 million) will be invested at the close of the Series B round alongside a consortium of international investors including a strategic investor, helping to accelerate the implementation of three late-stage development projects with an aggregate installed capacity of 13.7MWp.

Once completed, Nuru will be providing first-time energy access to more than 30,000 people, as well as improving the existing connections of a further 146,000 people, 4,460 businesses and 130 critical services, most of which currently rely on diesel gensets for their power. This will lead to greater levels of economic activity and improved living standards for the region's communities, as well as enhanced security.

The investment is expected to serve as an indication of improving investment conditions in DRC, which could subsequently attract additional investors, particularly from the private sector.

* At the time of writing, Nuru had closed on its Series B equity fundraise, with REPP investing the expected additional USD 5.5 million in equity.

Country policy alignment:
Project supports DRC's Updated NDC commitment to reduce its GHG emissions by 21% compared to the 2030 BAU scenario through investment in renewable energy development to meet country's target of 42.7 MW for wind, solar and geothermal energy by 2030. The project is well-aligned with the goals of DRC's National Development Strategic Plan 2019-2023, which calls for the increase in modern energy access to reduce the use of traditional biomass. It also directly contributes to strengthening the climate resilience of DRC's energy infrastructure, thus supporting DRC's adaptation efforts set out in the National Adaptation Plan to Climate Change 2022-2026.

"REPP's team have been absolutely catalytic in ensuring Nuru's pipeline is funded and under deployment. Nuru needed a dynamic, outcomes-focused partner to help us tackle the enormous needs and opportunities of the DRC market, and REPP have repeatedly played a proactive and decisive role in our round. We are thrilled to partner with REPP to achieve transformational impact in Congo."

Jonathan Shaw, CEO, Nuru

Source: Nuru

SELECTED INVESTMENT UPDATES

Source: Mobile Power Ltd

Source: Voltalia

Source: Marco Borero

Source: Lidera Green Power

Source: OnePower Ltd

Source: GVE Projects Ltd

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: GBP 275,513 equity

KPIs

GHG emissions avoided: 4,928 tCO_2e per year
Achieved: 102 tCO_2e (cumulative)

People with first-time access to clean energy: 148,000 **/ Achieved: 10,463**

MW Planned capacity: **2.24MW / Achieved: 0.1MW**

SDGs

OPERATIONAL

ARC POWER

Rwanda

PROJECT SUMMARY

As of 31 March 2023, four mini-grid generation systems serving six distribution networks and with a combined capacity of 0.1MW had been completed through this project, connecting 10,463 people and 155 microbusinesses across 14 villages in Bugesera and Gatsibo Districts to electricity. In October 2022, REPP partially exited its investment in ARC Power through repayment of the outstanding loan balance and partial conversion into equity.

Source: ARC Power Ltd

Country policy alignment:
Supports Rwanda's conditional NDC (2020) targets Supports Rwanda's conditional updated NDC (2020) targets to reduce GHG emissions by 38% and install 68MW of solar PV mini-grids in rural areas by 2030. Project is in line with Rwanda's long-term development plan, Rwanda 2050, as well as the National Strategy for Transformation (2017-2024), which aims to ensure 100% electricity access by 2035.

IN DEVELOPMENT

BUFFALO ENERGY

Zambia

PROJECT SUMMARY

A multi-project portfolio utilising a range of renewable energy technologies with a combined generating capacity of about 400MW. To date, REPP's corporate loan has enabled developer Buffalo Energy Ltd to continue to grow its pipeline while also progressing its existing projects, including the completion of various environmental and geotechnical studies on the 100MW Sesheke solar site. The first stage of this project is the innovative 25MW Ilute Solar project which is expected to reach financial close in 2023 through a joint venture with Serengeti Energy. REPP has also supported the procurement and management of a wind measurement campaign on part of a multi-phase 200MW wind project, and the subsequent completion of the full feasibility study for that project. Financial close is expected in 2024 on this project.

Source: Buffalo Energy Ltd

Country policy alignment:
Supports Zambia's Updated NDC (2021) targets to reduce GHG emissions by 47% by 2030. Buffalo Energy is also well-aligned with National Energy Policy (2019), Zambia's Vision 2030 and Eighth National Development Plan (2022-2026) objectives of diversifying the country's energy mix through the promotion of renewable energy sources.

AT A GLANCE

Technology: Grid-connected solar PV, wind and mini-hydro

Project type: Grid-connected

REPP funding: Corporate convertible loan (amount undisclosed due to confidentiality)

KPIs*

GHG emissions avoided: 49,869 tCO_2e per year (target)

People with first-time access to clean energy: 2,700 (target)

MW Planned capacity: 30MW (target)

SDGs

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: USD 3 million results-based senior loan

KPIs

GHG emissions avoided: 2,321 tCO_2e per year
Achieved: 86 tCO_2e (cumulative)

People with first-time access to clean energy: 39,725
Achieved: 4,660

MW Planned capacity: 1.1MW
Achieved: 0.04MW

SDGs

OPERATIONAL

CBEA POWERGEN TANZANIA

Tanzania

PROJECT SUMMARY

This project centres round an innovative funding vehicle established by CrossBoundary Energy Access (CBEA) in partnership with PowerGen Renewable Energy and supported with a USD 3 million loan from REPP. Through the vehicle, CBEA has purchased PowerGen's existing operating mini-grids in Tanzania, thereby providing funding to the developer to invest in new mini-grids. PowerGen will continue to provide long-term customer and asset management services to customers. This transaction sets the template for other transactions with CBEA in other countries. As of 31 March 2023, 932 homes and 238 microbusinesses had been connected via eight mini-grids, providing electricity to about 4,660 people.

Source: PowerGen Renewable Energy

Country policy alignment:
Supports Tanzania's Updated NDC (2021) targets to reduce GHG emissions by up to 35% by 2030 and promote climate-smart rural electrification. Also contributes to achieving the 60% by 2026 electrification target, set out in National Five-Year Development Plan 2021/22 – 2025/26. Project's numerous productive use customers and social service providers support sustainable economic growth in rural communities, which aligns with Tanzania's Development Vision 2025.

Source: Smart Energies International

IN DEVELOPMENT

DJERMAYA

Chad

PROJECT SUMMARY

This large-scale solar PV project is aiming to significantly reduce Chad's total reliance on fossil fuel-powered energy and boost its generating capacity by 20%. As of the end of March 2023, all financing documents for the project in Chad's Hadjer-Lamis had been signed and financial close is expected in Q4 2023. Technical reports have all been completed, financed by REPP's technical assistance, and an ESIA and livelihood restoration plan have also been established.

Country policy alignment:
Supports Chad's conditional Updated NDC (2021) target to reduce GHG emissions by 19.3% by 2030 and its first National Adaptation Plan (2022), which prioritises promotion of renewables. Project will help alleviate poverty and foster economic activity by providing lower cost power to the grid than fossil fuel-fired generation. Identified as a priority project in the Emergency Plan for Access to Electricity 2021-2023 (2020).

AT A GLANCE

Technology: Grid-connected solar PV

Project type: Grid-connected

REPP funding: EUR 380,000 development loan

KPIs*

GHG emissions avoided: 39,683 tCO_2e per year (target)

Improves stability of grid supply (target)

MW Planned capacity: 32MWp (target)

SDGs

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: USD 288,000 in development capital

KPIs

GHG emissions avoided: 5,957 tCO_2e per year
Achieved: 861 tCO_2e (cumulative)

People with first-time access to clean energy: 73,500
Achieved: 26,695

Planned capacity: 2.72MW
Achieved: 0.43MW

SDGs

OPERATIONAL

GVE NIGERIA

Nigeria

PROJECT SUMMARY

This ambitious mini-grid project aims to connect over 73,500 people living off-grid to clean and reliable electricity for the first time, directly supporting Nigeria's high-priority target of universal energy access by 2030. Following REPP's support, four of the 72 sites have been completed in the Anambra, Gombe, Plateau and Rivers states, resulting in a 0.43MW increase in renewable generating capacity and the connection of 26,695 people to electricity for the first time. ESIAs have been completed for all the sites and work is progressing.

Source: GVE Projects Ltd

Country policy alignment:
Supports Nigeria's Updated NDC (2021) conditional target to reduce GHG emissions by 45% by 2030. Strongly aligned with the Nigerian Government's 'new paradigm for rural electrification' – delivering energy access through a combination of centralised and decentralised approaches. Contributes towards Nigeria's National Development Plan 2021-2025 target to increase electricity access to 75% by 2025. Aligned with Nigeria's Energy Transition Plan's decarbonisation strategy to install 197GW of solar PV by 2050.

Source: Lidera Green Power

OPERATIONAL

MALILE

Madagascar

PROJECT SUMMARY

The first phase in a 42MW project to hybridise three large-scale heavy fuel oil (HFO) plants in Madagascar with solar PV has been completed thanks to a USD 6 million bridge loan from REPP to developer, Lidera Green Power (Lidera). Through installing 2.4MW, 1.25MW and 2MW of solar capacity at the HFO sites in Diego, Mahajanga and Toamasina, respectively, Lidera has been able to take advantage of the existing infrastructure, significantly reducing costs and the environmental impact of the developments. The developer is currently finalising studies on the second and much larger phase and is expecting to reach financial close in Q3 2024.

AT A GLANCE

Technology: Grid-connected solar PV

Project type: Grid-connected

REPP funding: USD 6 million bridge loan

KPIs

GHG emissions avoided: 11,963 tCO_2e (achieved, cumulative)

Improves stability of grid supply

Installed capacity: 5.7MW (Phase 1, achieved)

SDGs

Country policy alignment:
REPP's investment in the Malile solar PV project represents a significant international contribution to Madagascar's climate agenda, including the conditional NDC target (2016) for a 14% reduction of GHG emissions by 2030. It also supports the implementation of the government's Madagascar Emergence Initiative (2019) and will add 42MW of new solar generation capacity, in line with New Energy Policy (2015) targets.

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: LSL 7 million and LSL 75 million equity and senior debt

KPIs

Pilot: 76 tCO_2e (achieved, cumulative); whole project: 819 tCO_2e per year (target)

Pilot: 1,015 (achieved); whole project: c.30,000 (target)

Pilot: 50kWp plus 152kWh battery storage (achieved); whole project: 1.87MWp plus 5MWh battery storage (target)

SDGs

OPERATIONAL

HA MAKEBE

Nigeria

PROJECT SUMMARY

The second phase of a pioneering solar mini-grids project in Lesotho is underway following the completion of a pilot project funded by REPP in Ha Makebe village, north-east of Maseru. To date, over 200 households and business customers in and around Ha Makebe have been connected to electricity for the first time following the construction of the country's first ever private mini-grid. As of 31 March 2023, 4 of 10 additional mini-grids had achieved hot commissioning ahead of being put into full operation. Once fully operational, the mini-grids will provide low-cost, consistent, and usually first-time electricity access for up to an estimated 8,000 households, as well as small enterprises, schools, and seven health clinics.

Source: OnePower Ltd

Country policy alignment:
Project supports Lesotho's conditional NDC (2018) target to reduce GHG emissions by 35% by 2030 and install 1MW of solar PV mini-grids in rural areas. Ha Makebe is well aligned with Lesotho's National Energy Policy (2015), which aims to increase private sector engagement in energy sector development, especially renewable energy mini-grids.

CONSTRUCTED

MARCO BORERO

Kenya

PROJECT SUMMARY

REPP funding enabled developer Marco Borero to reach financial close on this project in Nyeri County after it had been unable to raise the final tranche of equity required to complete the financing package. This then unlocked a senior debt facility to accelerate construction of the plant, which has now been completed. The plant has been constructed, however following sectoral reforms and the Kenyan government's temporary moratorium on power purchase agreements for all energy projects, Marco Borero is renegotiating a new agreement with a revised tariff. Once this is finalised, the plant will be among the first privately owned solar plants to reach commercial operation in Kenya.

Source: Marco Borero

AT A GLANCE

Technology: Grid-connected solar PV

Project type: Grid-connected

REPP funding: USD 526,800 equity and shareholder loans

KPIs

GHG emissions avoided: 1,929 tCO_2e per year (target)

Improves stability to grid supply (target)

Planned capacity: 1.65MWp (actual)

SDGs

Country policy alignment:
Marco Borero contributes directly towards Kenya's target to reduce its GHG emissions by 32%, including through development of renewable energy capacity, as set out in its Updated NDC (2020). It also supports the implementation of the "Big Four" agenda (2018), which identifies energy as one of the enablers for sustained economic growth.

AT A GLANCE

Technology: Solar PV-powered batteries

Project type: Off-grid

REPP funding: GBP 1 million equity

KPIs

GHG emissions avoided: 9,885 tCO_2e per year
Acheived: 294 tCO_2e (cumulative)

People with first-time access to clean energy: 273,800
Achieved: 231,847

Planned capacity: 4.5MW
Achieved: 0.73MW

SDGs

OPERATIONAL

MOBILE POWER

Liberia, Nigeria, Sierra Leone, The Gambia, Uganda and Zambia

PROJECT SUMMARY

Solar-powered battery rental business Mobile Power has experienced significant growth and geographic expansion since its Series A and is now and is now in investor discussions around its Series B. The company provides power to customers through rentable "MOPO Batteries", which are charged by solar-powered "MOPO Hubs". As of 31 March 2023, the company had undertaken almost 10,000,000 rentals and created over 600 local full-time jobs, 30% of which were filled by women. Mobile Power is now scaling its e-mobility and generator replacement platform, providing battery rental for motorbikes, tuk-tuks, agricultural tricycles and other commercial applications.

Source: Mobile Power

Country policy alignment:
Mobile Power is well aligned with national NDC targets and priorities of most portfolio countries, supporting, among others: Sierra Leone's national policy priority of promoting renewable energy development in rural areas (Updated NDC, 2021); Liberia's 2030 conditional targets to reduce its GHG emissions by 64% and increase the share of RE in electricity generation to 30% by 2030 (Updated NDC, 2021); Nigeria's National Development Plan 2021-2025 electrification target of 75% by 2025; and Uganda's 100% electrification by 2030 target (Draft Revised National Energy Policy, 2019).

Source: Camco

OPERATIONAL

MOYAMBA

Sierra leone

PROJECT SUMMARY

REPP's USD 1.25 million loan is being used to support the construction and operation of 9 new mini-grids and the operation of a further 22 existing sites. A core focus of the project, which has been developed by Energicity (SL) Ltd, a subsidiary of female-led Energicity Corporation, has been building the resilience of the country's healthcare system via direct connection to hospitals and clinics. As of 31 March 2023, 30 of the 31 mini-grids were operational and providing electricity to health clinics and surrounding communities. The electricity is suitable for productive uses of energy, such as milling and grinding, thus providing income-generating opportunities for local businesses and creating jobs.

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: USD 1.25 million senior term loan

KPIs

Greenhouse gas emissions avoided: 2,847 tCO_2e per year / **Achieved: 814 tCO_2e (cumulative)**

People with first-time energy access: 79,108 / **Achieved: 55,820**

Planned capacity: **Achieved: 1.36MW** (Target: 1.3MW)

SDGs

Country policy alignment:
Project supports Sierra Leone's Updated NDC (2021) conditional targets of reducing GHG emissions by 10% by 2030 and increasing energy access to 95% by 2030 by promoting renewable energy sources and energy efficiency. Supports the country's development targets to connect 20 villages and 8 towns in each district to electricity, including through off-grid standalone schemes, as well as increasing the share of renewables to 65% by 2023 (Medium-term National Development Plan 2019-2023).

AT A GLANCE

Technology: Run-of-river hydro

Project type: Grid-connected

REPP funding: USD 1 million development loan

KPIs

Greenhouse gas emissions avoided: 18,495 tCO_2e per year (target)

Improves stability of grid supply (target)

Planned capacity: 10.2MW (target)

SDGs

IN DEVELOPMENT

MPANDA

Burundi

PROJECT SUMMARY

This 10.2MW run-of-river hydropower plant will support Burundi's climate action targets and increase power production by over 10%. REPP's USD 1 million development loan is being used to co-finance outstanding development works necessary for achieving financial close, including a bankable ESIA and detailed feasibility study. Developer Hydroneo East Africa Ltd is expecting to reach financial close in 2024 which will unlock a further USD 32 million in senior debt for construction of the plant, with a potential ~USD 4 million construction junior loan from REPP.

Source: Hydroneo East Africa Ltd

Country policy alignment:
REPP's investment in Mpanda supports Burundi's Updated NDC (2021) conditional target to reduce GHG emissions by 23% by 2030. Mpanda is identified as a priority project to help Burundi meet its unconditional 3% GHG emissions reduction target. Project is also listed as a priority initiative in the National Development Plan (2018) and represents strong support for the country's vision for sustainable development.

OPERATIONAL

MUBUGA

Burundi

PROJECT SUMMARY

This operational 8.67MWp solar PV power plant in Burundi's Gitega Province is improving the energy supply to people and businesses in one of the world's least electrified countries. Developed by Gigawatt Global Coöperatief, Mubuga is Burundi's first grid-connected solar project by an IPP and has made a meaningful contribution to the country's generation capacity. It has also increased Burundi's resilience to climate change and improved its energy security by diversifying the energy mix to include solar and thereby reducing its reliance on hydropower, which is increasingly affected by droughts, and imported diesel for gensets.

Source: Camco

AT A GLANCE

Technology: Grid-connected solar PV

Project type: Greenfield, grid-connected

REPP funding: Development finance, construction finance, subordinated term loan (amounts undisclosed due to confidentiality)

KPIs

GHG emissions avoided: 11,224 tCO_2e

Improves stability of grid supply

Installed capacity: 8.67MWp

SDGs

Country policy alignment:
REPP's investment in Mubuga supports Burundi's Updated NDC (2021) conditional target to reduce GHG emissions by 23% by 2030. The project is identified as a priority project to help Burundi meet its unconditional 3% GHG emissions reduction target. It is also listed as a priority initiative in the National Development Plan (2018) and represents strong support for the country's vision for sustainable development.

AT A GLANCE

Technology: On-shore wind

Project type: Grid-connected

REPP funding: USD 1.2 million mezzanine loan

KPIs

GHG emissions avoided: 3,880 tCO_2e

Improves stability to grid supply

Installed capacity: 2.4MW

SDGs

OPERATIONAL

MWENGA

Tanzania

PROJECT SUMMARY

Tanzania's first ever wind farm achieved commercial operation in July 2020, providing much-needed energy security to a growing rural population, and supplying connected communities and businesses with sustainable green power. Completion of the works in the Mufindi District in Tanzania's Iringa region was made possible after a USD 1.2 million mezzanine loan from REPP concluded the financing arrangements for the project and improved its overall commercial viability.

Source: Rift Valley Energy Group

Country policy alignment:
Supports Tanzania's Updated NDC (2021) mitigation and adaptation priorities, including targets to reduce GHG emissions by up to 35% by 2030 and promote rural electrification and diversification of the energy system. Also supports the implementation of Tanzania's Vision 2025 and the National Five-Year Development Plan 2021/22-2025/26 (2021) through the development of energy infrastructure and contribution towards increasing national generation capacity to 4,915MW. The wind-based generation is feeding into a local distribution grid, thus expanding energy access and supporting reliable supply, in line with the 85% electricity access by 2026 target.

OPERATIONAL

PAS SOLAR

Nigeria

PROJECT SUMMARY

PAS Solar provides affordable clean energy to off-grid communities in Nigeria. The company uses IoT-enabled mini solar system kits to deliver energy on an energy-as-a-service basis, which means customers do not buy the hardware but rather pay fixed monthly fees for use of electricity generated. The company is a pioneer with this business model in Nigeria as well as with repair and maintenance to maximise the lifespan of equipment. As of 31 March 2023, PAS Solar has made over 14,000 installations and maintains 4,530 active connections for micro-enterprises and households, providing first-time clean electricity access to over 22,652 customers, as well as to over 200 businesses.

Source: PAS Solar

Country policy alignment:
Supports Nigeria's Updated NDC (2021) conditional target to reduce GHG emissions by 45% by 2030. Strongly aligned with the Nigerian Government's 'new paradigm for rural electrification' – delivering energy access through a combination of centralised and decentralised approaches. Contributing towards Nigeria's National Development Plan 2021-2025 target to increase electricity access to 75% by 2025.

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: USD 2 million in equity

KPIs

GHG emissions avoided: 43,581 tCO_2e per year / **Achieved: 2,902 tCO_2e (cumulative)**

People with first-time energy access: 480,000 / **Achieved: 119,637**

Planned capacity: 19.9MWp / **Achieved: 4.57MWp**

SDGs

OPERATIONAL

POWERGEN

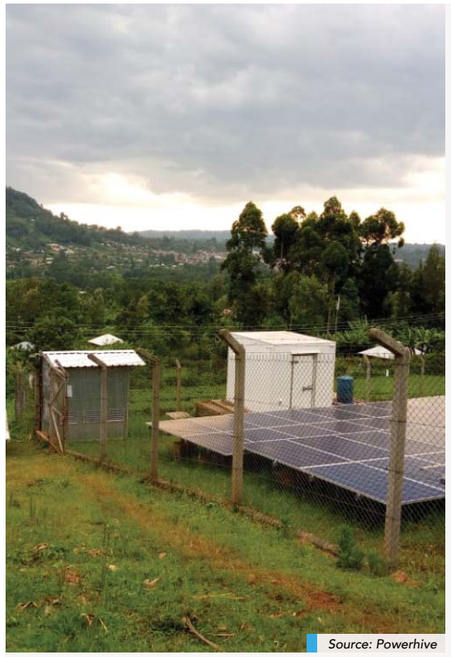
Kenya, Nigeria, Sierra Leone and Tanzania

PROJECT SUMMARY

Nearly 120,000 people and over 2,000 businesses across Kenya, Nigeria, Sierra Leone and Tanzania have so far been connected to electricity for the first time through this project following a successful eight-investor funding round in 2019. Developer PowerGen Renewable Energy is also scaling up its productive use programmes, which include including electric cooking, cold storage, and agro-processing, to enhance the quality of life of its customers. REPP has been supporting the company since 2016; its USD 2 million equity investment during the latest fundraise was key to crowding-in additional funding from private investors.

Source: PowerGen Renewable Energy

Country policy alignment:
Supports GHG emission reduction targets of all target countries. Strongly aligned with Nigeria's aim to deliver energy access through a combination of centralised and decentralised approaches. Supports Sierra Leone's conditional 95% by 2030 electrification target (Updated NDC, 2021) and Tanzania's 60% electrification by 2026 target (National Five-Year Development Plan 2021/22-2025/26).



Source: Powerhive

OPERATIONAL

POWERHIVE

Kenya

PROJECT SUMMARY

Over 24,800 people and microenterprises have so far been connected to electricity for the first time through 24 operational mini-grids, which have a combined generating capacity of 0.9MW. As well as providing clean energy suitable for productive use by local businesses, developer Powerhive has introduced a micro-financed poultry programme to customers and financing for electric pressure cookers to encourage less carbon-intensive cooking. Powerhive has also facilitated the roll out of electric mills, motorbikes and tuk-tuks across its sites. These economic opportunities support climate-resilient agricultural practices, enhancing livelihoods and increasing the overall resilience of the project community.

Country policy alignment:
Supports Kenya's Updated NDC (2020) mitigation and adaptation goals, which focus on increasing solar-based generation, strengthening the resilience of energy systems and abating GHG emissions by 32% by 2030. Powerhive also contributes to Kenya's "Big Four" development agenda (2018) by fostering a wide range of productive use activities in its projects.

AT A GLANCE

Technology: Solar PV mini-grids

Project type: Off-grid

REPP funding: USD 3 million debt

KPIs

GHG emissions avoided: 2,190 tCO_2e per year **Achieved: 1,083 tCO_2e (cumulative)**

People with first-time access to clean energy: 90,000 **Achieved: 24,826**

Planned capacity: 1MW **Achieved: 0.9MW**

SDGs

AT A GLANCE

Technology:
Solar home systems

Project type:
Off-grid

REPP funding:
EUR 1.3 million equity (2019); EUR 500,000 convertible loan (2020)

KPIs

GHG avoided: 9,473 tCO_2e per year **Achieved: 15,163 tCO_2e (cumulative)**

People with first-time access to clean energy: 1,000,000
Achieved: 138,555

Planned capacity: 1.73MW
Achieved: 0.5MW

SDGs

OPERATIONAL

UPOWA

Cameroon

PROJECT SUMMARY

Developer upOwa SAS provides solar home systems to off-grid households using a lease-to-own model through which customers pay a deposit and then make monthly payments with cash and through mobile phone money platforms with targeted repayment periods of 18-24 months. As of 31 March 2023, nearly 140,000 people (against an initial target of 1,000,000) had been connected to electricity for the first time as a direct result of REPP's investment in the project. upOwa SAS has also connected 325 micro-businesses and more than 80 critical services such as schools, clinics, hospitals and water pumping stations.

Source: upOwa

Country policy alignment:
Supports Cameroon's Updated NDC (2021) conditional target to reduce GHG emissions by 35% by 2030. Renewable energy projects like upOwa are expected to have an important role in achieving universal electricity access, as outlined in Cameroon's Rural Electrification Master Plan (2016).


Source: Winch Energy


Source: Virunga

OPERATIONAL & IN DEVELOPMENT

VIRUNGA

Burundi, Kenya and Zambia

PROJECT SUMMARY

Developer Virunga Power's 100MW portfolio of run-of-river hydroelectric power and rural distribution projects is expected to provide improved energy access for up to 10 million people. The company operates a hydro-based mini-grid in Zambia and its first greenfield plants with 11MW capacity are expected to reach financial close in Burundi in 2023. It is also developing a large-scale distribution concession in the country. In December 2022, Gridworks, the UK government-backed investor in Africa's electricity networks, announced it would invest up to USD 50 million in Virunga Power.

AT A GLANCE

Technology:
Run-of-river hydro and distribution systems

Project type:
Grid-connected and off-grid

REPP funding:
USD 2.5 million convertible loan

KPIs

GHG emissions avoided: 223,000 tCO_2e per year (target)

Improves stability to grid supply (target)

Planned capacity: 100MW (target)

SDGs

Country policy alignment:
Supports all countries' NDC targets to reduce their respective GHG emissions by 2030. Contributes towards Burundi's 2040 national target of adding 238MW hydropower (Master Plan 2018) and Kenya's objective to develop small hydro (National Energy Policy, 2018), as well as Tanzania's objective to develop its energy infrastructure (Vision 2025) and Zambia's goal to diversify its energy mix, including through 1.383MW of new hydro power-based generation capacity by 2030 (National Energy Policy, 2019; Renewable Energy Strategy and Action Plan 2022-2030).


Source: Winch Energy

OPERATIONAL

WINCH

Sierra Leone and Uganda

PROJECT SUMMARY

Following the support of REPP and co-lender FMO, developer Winch Energy has successfully completed the construction of 11 mini-grids in Sierra Leone and 25 in Uganda, countries that have among the lowest electrification rates in the world. The completion of the 11 mini-grids in Sierra Leone adds to an existing portfolio of 12 mini-grids being operated by the company. Forty-two of the mini-grids were operational as of 31 March 2023, providing clean, reliable and cost-competitive electricity to over 21,000 people across the two countries.

AT A GLANCE

Technology:
Solar PV mini-grids

Project type:
Off-grid

REPP funding:
USD 2.1 million senior term loan

KPIs

GHG emissions avoided: : 739 tCO_2e per year
Achieved: 294 tCO_2e (cumulative)

People with first-time access to clean energy: 55,000
Achieved: 21,473

Planned capacity: 2.2MW
Achieved: 1.96MW

SDGs

Country policy alignment:
Project supports both countries' NDC targets to reduce GHG emissions by 2030 and promote renewable energy development in rural areas. Contributes to Sierra Leone's conditional national electrification target of 95% by 2030 (Updated NDC, 2021) and Uganda's 100% electrification by 2030 target (Draft Revised National Energy Policy, 2019). Improving energy access through renewable energy supports the implementation of Sierra Leone's medium-term development vision 2019-2023 and Uganda's National Development Plan III (2020/21-2024/25).

ABOUT THE UK'S INTERNATIONAL CLIMATE FINANCE

The UK's ICF portfolio is delivered jointly across four UK Government departments: the Foreign Commonwealth & Development Office (FCDO); the Department for Energy Security and Net Zero (DESNZ); the Department for Environment, Food & Rural Affairs (Defra); and the Department for Science, Innovation and Technology (DSIT). This Official Development Assistance supports developing countries to reduce poverty and respond to the causes and impacts of climate change. These investments help countries to:

- adapt and build resilience to the current and future effects of climate change
- pursue low-carbon economic growth and development
- protect, restore and sustainably manage nature
- accelerate the clean energy transition.

Developed countries jointly committed to mobilise USD 100 billion per year in climate finance by 2020 to support developing countries to adapt and mitigate the impacts of climate change. Estimates indicate this target was not achieved but it is now expected to be reached by 2023. More broadly, the Intergovernmental Panel on Climate Change estimates that much greater annual investment from all sources will be needed globally for the world to transition to a low-carbon future and avoid warming exceeding 1.5°C.

Substantial progress was made at the United Nations Climate Change Conference (COP26), hosted by the UK in 2021, which included:

- securing net zero commitments for over 90% of the world's economy - up from 30% four years ago, when the UK began preparations for COP26;
- agreeing the Glasgow Climate Pact, which set out ambitious commitments to increase action on climate change including phasing down coal and ending inefficient fossil fuel subsidies for the first time;
- increased support to developing countries, including at least doubling adaptation finance to USD 40 billion per year by 2025; and
- leaders representing over 90% of the world's forests pledging to halt and reverse forest loss and land degradation by 2030.

The combination of net zero targets, enhanced 2030 emissions reduction commitments, protecting and restoring nature and global collaboration in key sectors can put the world on track to keep global warming below 2°C, provided there is concerted and dedicated delivery by all countries. However, increased action is needed to keep us to the lower 1.5°C limit set out in the Paris Agreement and to reach the Sustainable Development Goals (SDGs), which are being reviewed against progress to date this year.

UK ICF ACTIVITY AND RESULTS

The UK has committed to spending at least GBP 11.6 billion in ICF between financial years 2021/22 and 2025/26. This pledge helps set new ambitions globally on climate finance, where significant investment is required to meet adaptation needs, build resilience and support the transitions to sustainable land use and clean energy. The UK aims to ensure a balanced split between mitigation and adaptation finance and has committed to investing at least GBP 3 billion of ICF in development solutions that protect and restore nature.The ICF's results to date demonstrate the transformative impact that international climate action can have. From April 2011 to March 2022, UK ICF has:

- supported 95 million people to cope with the effects of climate change and provided 58 million people with improved access to clean energy;
- reduced or avoided 68 million tonnes of greenhouse gas emissions and installed 3,300 megawatts of clean energy capacity; and
- mobilised GBP 5.7 billion of public finance and GBP 5.2 billion of private finance for climate change purposes in developing countries.

For more detailed information, please consult the gov.uk publication titled **UK international climate finance results 2022**.

FUTURE OF INTERNATIONAL DEVELOPMENT

Earlier this year, International Development Minister Mitchell set out a new vision for British development policy and launched UK Development (UKDEV) to improve global prosperity and reduce poverty. The UK's international development strategy, in light of Russia's war in Ukraine and joint fossil fuel and food crises, remains a robust long-term approach for the UK to deliver its promises on humanitarian, energy access and wider climate change support. UKDEV will build on a range of partnerships to advance the development progress to build widely shared prosperity.

By placing partnerships at the centre of the UK's offer it demonstrates that international development is about working together to secure shared objectives with our partners. As such, programmes like REPP are key in their close relationships with local government agencies, project developers and other funders, both public and private.

THE ROLE OF REPP WITHIN UK ICF

The UK government sees the mobilisation of private investment in climate action as crucial to meeting global development and climate targets, as public investment alone will not be sufficient to meet the investments needed to deliver the Paris Agreement and SDGs. The UK is committed to working alongside private sector actors to promote the transformation necessary to unlock significantly greater finance flows from a diversity of sources.

UK support to REPP constitutes an important part of UK ICF's ambition of helping develop markets in a way that can be replicated and scaled up by the private sector. It is also a programme delivering SDG7 by delivering energy access to some of the least connected populations and communities relying on fossil fuels. By working with private sector developers of innovative renewable energy projects in Sub-Saharan Africa, REPP is enabling developers to draw in further private sector investment, helping projects to give communities access to clean energy supplies, avoid greenhouse gas emissions and build future markets.

AUDITED FINANCIAL STATEMENTS[1]

Every investment by REPP supports renewable energy with the environmental objective of mitigating climate change and are fully aligned with the EU Taxonomy Regulations (2020), which were created to ensure common understanding of sustainable assets and investments among the market participants.

BALANCE SHEET

	AS AT 31 MARCH 2023		AS AT 31 MARCH 2022	
	£		£	
Fixed assets				
Investments	28,466,082		25,159,274	
Current assets				
Debtors	1,495,752		499,269	
Cash at bank and in hand	28,463,918		33,578,389	
	29,959,670		34,077,658	
Creditors: amounts falling due within one year	(61,475,960)		(62,287,140)	
Net current liabilities		(31,516,290)		(28,209,482)
Net liabilities		(3,050,208)		(3,050,208)
Reserves				
Called up share capital		-		-
Profit and loss account		(3,050,208)		(3,050,208)
		(3,050,208)		(3,050,208)

STATEMENT OF CASH FLOWS

	PERIOD ENDED 31 MARCH 2023		PERIOD ENDED 31 MARCH 2022	
	£		£	
Cash flows from operating activities				
Cash generated from/(absorbed by) operations	703,801		(296,681)	
Interest receivable	(1,108,895)		(2,258,347)	
Net cash outflow from operating activities		(405,094)		(2,555,028)
Investing activities				
Drawdown on government grants			15,000,000	
Issue of long-term loans and other fixed asset investments	(4,709,377)		(6,402,653)	
Net cash (used in)/generated from investing activities		(4,709,377)		8,597,347
Net (decrease)/increase in cash and cash equivalents		(5,114,471)		6,042,319
Cash and cash equivalents at beginning of year		33,578,389		27,536,070
Cash and cash equivalents at end of year		28,463,918		33,578,389

[1] REPP is 100% grant funded. Grant income is recognised in proportion to eligible expenditure incurred by the company. Any income or property of the company are applied solely to promotion of small-scale renewable energy projects in Sub-Saharan Africa, as per the objects of the company. The articles of the company restrict the payment of dividends, capital or profits to its members.

PROFIT AND LOSS

	PERIOD ENDED 31 MARCH 2023 £	PERIOD ENDED 31 MARCH 2022 £
Turnover	1,998,022	4,471,900
Gross profit	1,998,022	4,471,900
Administrative expenses	(2,069,386)	(2,650,740)
Amounts written off investments	(2,121,581)	(4,199,245)
Operating loss	(2,192,945)	(2,378,085)
Interest receivable and similar income	2,192,945	2,378,085
Result before tax	-	-
Tax on surplus	-	-
Profit/(loss) for the financial year	-	-

Source: Nuru

Source: ARC Power

Source: Bboxx

GLOSSARY

Avoided greenhouse gas (GHG) emissions – the amount of emissions, in tonnes of carbon dioxide equivalent (tCO_2e), which would have been created to generate the same amount of electricity produced by a REPP-financed renewable energy project if fossil fuels had been used. It is calculated by multiplying the number of MWh generated (or forecast) by the project with the country's grid emissions factor, which is itself calculated as total tCO_2e divided by total MWh generated.

Climate finance - local, national or transnational financing that is drawn from public, private and alternative sources of financing and which seeks to support mitigation and adaptation actions that will address climate change.

Committed capital - the total value of funding committed by REPP to contracted projects.

Customer – a single home or workplace that is served with electricity from an off-grid renewable energy project. For standalone systems, such as solar home systems, one installation equals one customer, whereas a mini-grid is connected to several customers. See also: New connections

Decentralised energy - energy that is generated away from the main grid and close to where it is used. Includes small-scale renewables such as solar, biomass, geothermal and wind.

Energy access – defined by the International Energy Agency as "a household having reliable and affordable access to both clean cooking facilities and to electricity, which is enough to supply a basic bundle of energy services initially, and then an increasing level of electricity over time to reach the regional average".

Environmental and social impact assessment (ESIA) – a process of predicting and assessing a project's potential environmental and social risks and impacts.

Environmental and social management system (ESMS) – a set of policies, procedures, tools and internal capacity to identify and manage a financial institution's exposure to the environmental and social risks of its clients/investees.

Finance mobilised - financial resources committed by third parties to a project being supported by REPP.

Financial close – for grid-connected projects, refers to the stage when all the conditions precedent of the financing agreements enabling the construction of the project have been fulfilled prior to the initial availability of funds. For off-grid projects, it is the stage when all of the conditions precedent related to the construction or operation phase of the project that is receiving REPP support are fulfilled.

First-time energy access - any person or business being connected to an electricity supply for the first time as a direct result of an off-grid renewable energy project. See also: New connections, Customer

Independent power producer (IPP) - a private entity that generates electricity for sale to utilities and end users.

Installed capacity – the rated power output, in MW, of a power plant or other electricity generator when operational. Also known as nameplate capacity and rated capacity.

International Climate Finance (ICF) - the UK government's commitment to building resilience and catalysing low carbon transition in developing countries. In September 2019, the UK's ICF was doubled from GBP 5.8 billion in the previous five years to at least GBP 11.6 billion from 2021-2025. See pages 50-51 for more.

Isolated grid - a mini-grid with a capacity of over 1MW.

Nationally Determined Contributions (NDCs) - NDCs embody efforts by countries to reduce national emissions and adapt to the impacts of climate change. The Paris Climate Agreement requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. The iterative nature of the NDCs is geared towards continuously increasing the level of ambition of global response to climate change.

New connections – the number of people connected to an off-grid renewable energy project. It is calculated as the number of customers served by the project multiplied by the average number of people per household, which is deemed to be five persons. See also: Customer

Off-grid - not connected to a centralised high voltage electricity grid.

Photovoltaic (PV) – a conversion of light into electricity using semiconducting materials, typically contained in solar panels.

Power purchase agreement (PPA) - a contract in which a purchaser agrees to purchase and a supplier agrees to supply electricity generated in the future, normally at a specified price for a defined period.

Private finance - financing from non-public sources, including private banks, private companies, private or company pension funds, insurance companies, private savings, family money, entrepreneurs' own capital and sovereign wealth funds. It includes all types of funding such as equity, debt and guarantees.

Public finance - financing from official (i.e., government) sources.

REPP partner - any entity approved by the Board as such. A REPP partner can be a finance provider, risk mitigation provider or technical assistance provider.

Risk mitigation instruments – instruments, typically in the form of guarantees or insurance, that transfer specific risks from one party to another.

Run-of-river hydro – a system of hydroelectric power generation through which running water is diverted from a river and guided along a channel, or "penstock" to a generating house, before being returned to the river downstream.

Sustainable Development Goals (SDGs) – a collection of 17 global goals adopted by all UN Member States in 2015 with a vision of ending poverty, protecting the planet and ensuring that all people enjoy peace and prosperity. The target year for achieving all SDGs is 2030.

Technical assistance – various types of non-financial assistance, including instruction, skills training, transmission of working knowledge, and other consulting services.

Source: Bboxx

FURTHER INFO

CONTACT INFORMATION

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REPP COMPANY INFORMATION

Directors:	P U H Coveliers (appointed 1 December 2018), D J Farchy (appointed 1 November 2018, resigned 20 December 2022), A Lucas (appointed 3 November 2020), E P Usher (appointed 14 December 2015)
Company secretary:	K V Upston-Hooper (appointed 20 November 2015)
Registered number:	09882930
Registered address:	28 St John's Square, London, EC1M 4DN, United Kingdom

ABOUT THIS REPORT

This report has been prepared by Camco Management Ltd on behalf of the Renewable Energy Performance Platform. The audited financial statements were prepared by independent auditors, Azets Audit Services Limited.

SDG TARGETS: FURTHER INFORMATION

SDG 1
Target 1.4: Ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
Target 1.5: Build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

SDG 3
Target 3.4: Reduce by one third premature mortality from non-communicable diseases through prevention and treatment, and promote mental health and well-being.

SDG 5
Target 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

SDG 7
Target 7.1: Ensure universal access to affordable, reliable and modern energy services.
Target 7.2: Increase substantially the share of renewable energy in the global energy mix.

SDG 8
Target 8.4: Improve progressively, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with sustainable consumption and production.
Target 8.5: Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

SDG 9
Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

SDG 11
Target 11.1: Ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums.

SDG 13
Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
Target 13.2: Integrate climate change measures into national policies, strategies and planning.

SDG 17
Target 17.3: Mobilise additional financial resources for developing countries from multiple sources.

DISCLAIMER

WITH THANKS TO:

REPP founders

European Investment Bank

UN environment
United Nations Environment Programme

REPP funder

UKaid
from the British people

REPP manager

camco
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REPP developers

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BUFFALO ENERGY

CrossBoundary Access

energicity

GIGAWATT GLOBAL

GV

HYDRONEO
EAST AFRICA

LIDERA Green Power

Marco Borero

mobile power

nuru
congo connecté

POWER

PAS BBOXX

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RENEWABLE ENERGY

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powerhive

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upowa
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VIRUNGA POWER

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