REPP

managed by camco clean energy

# REPP REPORT AND FINANCIAL STATEMENTS

*2021-2022*

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IMAGES ON THE COVER:

*Top: LIDERA Green Power*
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*Bottom left: Camco Management Ltd*
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Solar PV mini-grid, Lesotho. *Source: Camco Management Ltd*

# EXECUTIVE SUMMARY

The Renewable Energy Performance Platform (REPP) was set up in 2015 with the primary purpose of **avoiding greenhouse gas emissions** (GHG) by accelerating Africa's transition to a sustainable development pathway. It is managed by Camco under the guidance of the REPP Board.

Today, it is the leading investment platform for small-scale and distributed renewable energy across the region, 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 43.4 million** to projects as of 31 March 2022, with a further GBP 66.5 million in documentation, and has **mobilised an additional GBP 306 million** from third parties.

Every investment by REPP supports climate change mitigation. REPP also seeks to achieve transformational change in the market and ensures that its support for projects, businesses and markets is aligned with countries' climate, energy, and sustainable development priorities.

By the end of the reporting period, REPP had **supported 38 projects** spanning **16 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, 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.

To date, **more than one million people have been connected to electricity for the first time** as a direct result of REPP's investments in off-grid projects.

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 3.25MW 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. Other on-grid projects are progressing well, the largest of which – a 25MW solar PV plant in Chad – is expecting to reach financial close in Q1 2023.

In total, REPP-supported projects accounted for 24.7MW installed renewable energy capacity as of 31 March 2022, with 358MW contracted and under development.

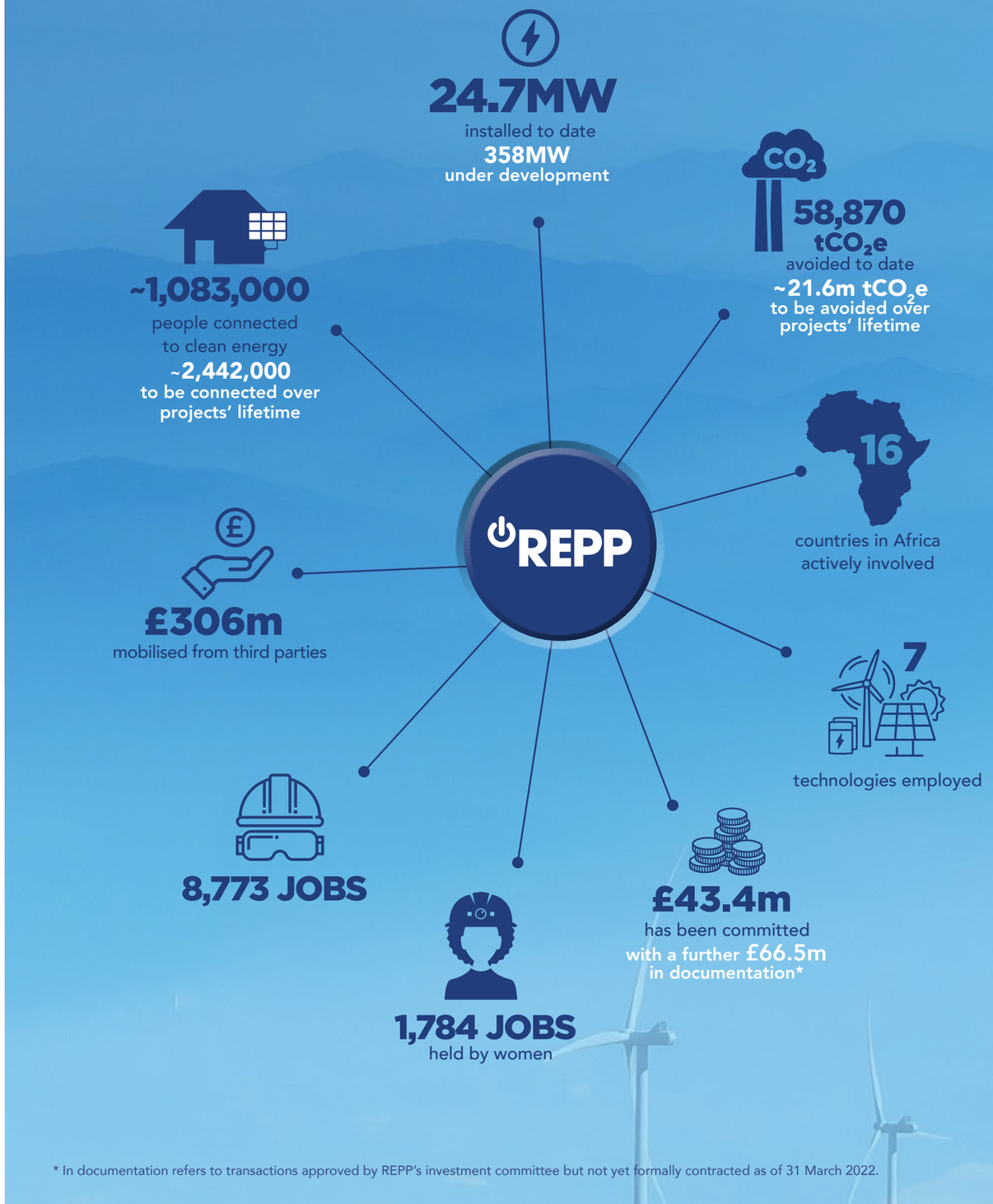
As more projects come online, the total GHG emissions avoided through these projects increases. Over 58,000 $tCO_2e$ has been avoided by REPP projects to date and over 21 million $tCO_2e$ is expected to be avoided over the lifetime of all currently contracted projects.

Africa's burgeoning small-scale decentralised renewable energy sector is facing fresh challenges as a result of COVID-19 and most recently the war in Ukraine. With supply chains severely disrupted and many of the central banks raising 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, both now and in the future, 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 2022 unless otherwise stated.




* In documentation refers to transactions approved by REPP's investment committee but not yet formally contracted as of 31 March 2022.

# TRANSFORMATIONAL IMPACTS: HIGHLIGHTS

REPP's transformational goal is to create a self-sustaining market for private investment in small-scale renewable energy in Sub-Saharan Africa, which has already connected over one million people to affordable clean energy and is plugging a financing gap too large for public money alone to fill. This is being achieved by adjusting and reducing investor risk so that more commercial funds flow in the future through:

- the creation of a high volume of projects (which makes investors more comfortable) and crowding in significant players as 'first movers';
- adapting familiar financing structures to unfamiliar country contexts (ensuring investors see recognisable, secure deals in a nascent market); and
- working with governments to create enabling environments for renewables investment.

What follows is a selection of examples covering a range of technologies and project sizes, where projects can be shown to be having a transformative impact.

## MALILE

With approximately 75% of Madagascar's power generated from expensive, imported and high-emission heavy fuel oil (HFO) and diesel plants, the government is keen to reduce the country's dependence on fossil fuels and shift towards more sustainable sources. This two-phase grid-connected project supports that objective through the installation of solar PV arrays to three existing large-scale HFO plants. See page 40 for more.

### 3.25MW OF CLEAN ENERGY CAPACITY INSTALLED

- First large-scale PV hybridisation projects in Madagascar.
- Drafting of the first bankable power purchase agreement and concession agreements for the specific purpose of a solar hybridisation project in the country.
- 17 million $tCO_2e$ expected to be mitigated over the full project's lifetime

## MOYAMBA

This off-grid project in western Sierra Leone involves the construction and operation of 9 new solar-powered mini-grids and the operation of a further 23 existing sites. A significant part of the project is targeted towards strengthening the resilience of the country's health care system via direct connection to hospitals and clinics. See page 41 for more.

### 28 COMMUNITY HEALTH CENTRES RECEIVING FREE CLEAN ELECTRICITY

- Financing portfolios of solar rural mini-grids using non-recourse finance (which is traditionally used for large independent power producer (IPP) projects).
- Financing structure can be replicated to other mini-grids projects in the region.
- One of the first female-led mini-grids developers in Africa. See page 34.

Source: Camco Management Ltd


Source: Mobile Power Ltd

## MOBILE POWER

Mobile Power is a solar-powered battery rental business providing affordable clean energy and transport solutions to low-income end-users in markets that are underserved by existing electrification models. More than 150,000 people have been connected to electricity for the first time as a direct result of REPP's investment in the project, making it a considerable contributor to the 1 million people now connected through REPP-supported projects. See page 50 for more.

### 370,000 MONTHLY RENTALS

- With REPP's support, Mobile Power's low-cost battery rental model is reducing barriers to first-time energy access for customers, removing the need for deposits or connection fees.
- Mobile Power's flexible 24-hour rental model is facilitating the ability to match revenues with energy consumption.
- Project is reducing costs of transportation of goods through solar-powered batteries for e-mobility solutions.

## MWENGA

This ground-breaking project to build Tanzania's first-ever wind farm was commissioned in July 2020. Since then, the 2.4MW wind farm has been providing much-needed energy security to homes and businesses connected to a rapidly expanding private rural grid network while also making the network, which already provides power from a hydro plant, more resilient to seasonal variability and climate change.

### 400 APPLIANCES WHICH ALLOW FOR PRODUCTIVE USE POWERED BY THIS PROJECT

- The project is innovating with a mezzanine loan where the interest rate varies based on the level of revenue from the local rural grid.
- Mwenga has implemented a novel business model: a hybrid between IPP and off-grid models to sell both locally and to the grid. This business model forms a template for other businesses throughout the continent.
- Increasing productive use of electricity, such as for sawmills and workshops, means new jobs, enterprises and income generation in the communities. Linking renewable energy projects to job creation creates stronger government incentives to bear the burden of applying regulation and keeping tax incentives stable.

Solar PV hybridisation project, Madagascar. *Source: LIDERA Green Power*

*Source: Camco Management Ltd*

*Source: Mobile Power Ltd*

# SUSTAINABLE DEVELOPMENT GOALS

**ALL 38 PROJECTS**
directly support:

**16 PROJECTS**
also support:

**12 PROJECTS**
also support:

**1 PROJECT**
also supports:

| SDG | Relevance | Underlying targets | REPP's contribution |
|---|---|---|---|
|  |  | 7.1, 7.2 | • Supports energy access by investing in innovative decentralised renewable energy solutions, such as PAYG solar mini-grids and SHS, targeting off-grid communities.<br>• Improves reliability of electricity supply by investing in grid-connected renewable energy projects. |
|  |  | 13.1, 13.2 | • Directs climate finance towards renewable energy activities in line with the Paris Climate Agreement and project countries' NDCs.<br>• Helps build a country's resilience towards climate change through investment in decentralised renewable energy systems. |
|  |  | 5.5 | • Supports women entrepreneurship by investing in women-owned or managed businesses.<br>• Works directly with investee companies to help them improve gender equality status in the company and project implementation through development of gender action plans. |
|  |  | 17.3 | • Mobilises private (and public) capital towards supporting sustainable development in developing countries. |
|  |  | 1.4, 1.5 | • Supports first-time access to clean and affordable energy services that improve livelihoods of people living in poverty.<br>• REPP-supported projects create decent jobs that respect labour rights and improve workers' skills.<br>• Helps build a country's resilience towards climate change through investment in decentralised renewable energy systems. |
|  |  | 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.<br>• Provides energy infrastructure and financing solutions to under-served communities. |
|  |  | 3.4 | • Promotes good health and wellbeing by supporting clean energy solutions that at least partially replace the use of kerosene, candles, charcoal and wood that are known to increase the risk of or to aggravate respiratory diseases. |
|  |  | 8.4, 8.5 | • Supports decent work conditions by requiring all REPP-supported projects and their developers establish an IFC Performance Standard-compliant environmental and social management system to ensure a high level of environmental and social integrity. |
|  |  | 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 69.**

# WELCOME

Since REPP's last annual report, the Intergovernmental Panel on Climate Change has published a series of shocking reports that have laid bare the full extent of the current and future threats posed by climate change – and the dire outcome for the planet if we fail to make drastic and immediate cuts in carbon emissions. At least 3.3 billion people are already "highly vulnerable" to the impacts of a warming world, the scientists tell us, with the worst affected living in developing countries. But no region of Earth has escaped the impacts, with droughts, floods and heatwaves increasingly commonplace and a mass extinction already taking place in the natural world.

The 1.5°C dream may still be alive, but it is hanging by a thread as emissions continue to rise.

COP26 in Glasgow was awash with headline-grabbing pledges from governments and big business to stamp out their environmental footprints and transition to net zero. But with the real substance in the "how" rather than the "what", all eyes will be on COP27 in Egypt this November to hopefully find out exactly how nations and corporations are planning to turn their promises into action.

The war in Ukraine and the long-lasting impacts of COVID-19 are certainly making a difficult situation harder. Across the world, almost every sector is being hit by disrupted supply chains and now many of the central banks are raising interest rates too. For Sub-Saharan Africa's still nascent renewables sector, this is making it more difficult and expensive to complete projects or start new ones, with developers facing the triple challenge of supply shortages and the increased cost of both those supplies and project financing. Just as the market was showing signs of taking off, these new pressures are threatening major setbacks. Working out how to cope with them and scale up their renewable energy sectors in line with their COP26 objectives has become a significant challenge for countries.

Initiatives such as the Renewable Energy Performance Platform (REPP), which employs a practical and flexible approach to funding, have a key role to play in responding to this challenge. REPP provides the full financing toolbox to unlock projects and set developers and distributed energy companies on the right path - from early-stage development loans and convertible notes to support the scaling up of operations, all the way to long-term mezzanine loans and construction loans.

With the guidance of the Board, REPP's investment manager, Camco, supports companies and projects capable of delivering transformational climate and social impacts using new business models and innovative approaches to improving Africa's energy system and increasing energy access. But investing in pioneering approaches very often requires a greater appetite for risk on the side of the investor, and this is certainly true in the case of REPP.

As this latest annual report shows, however, many of those calculated decisions are starting to pay dividends. REPP-supported off-grid projects surpassed an important milestone in early 2022, between them providing first-time energy access to over one million people. And in the on-grid space, 3.25MW of solar PV plant has been commissioned as part of a major project to install renewables at three existing heavy fuel oil sites in Madagascar, as well as a 7.5MW solar plant in Burundi and a 2.4MW wind farm in Tanzania. This report is filled with examples of thriving projects that are cutting emissions and improving people's lives.

With its dispersed and rapidly growing population, there is never likely to be a one-size-fits-all solution to Africa's energy future. By investing in successful ventures employing a range of clean technologies, sizes and types, REPP is demonstrating the need – and its support for - a full suite of solutions.

**REPP Board of Directors**

*Solar PV mini-grid, Uganda. Source: Winch Energy Ltd*

*Source: GVE Projects Ltd*

*Source: LIDERA Green Power*

# A WORD FROM THE FUNDER

In November 2021, the UK had the honour of hosting the COP26 Climate Conference, bringing together delegates from around the World. At the Conference, governments and organisations, businesses and investors, each made commitments to net zero. Collectively, we kept alive the prospect of limiting global warming to 1.5°C degrees above pre-industrial levels. A historical agreement to phasing down coal was signed for the first time.

Moving forward, it is up to all parties to translate commitments into action. This includes supporting an inclusive and just transition to clean energy, to answer the need for rapidly expanding access to reliable and affordable energy services across communities. In sub-Saharan Africa, where the global burden on energy access is most felt, public investment has an important role to play in mobilising private capital into innovative renewable energy solutions, that make use of new technologies or test new business models and partnership approaches.

The UK-funded Renewable Energy Performance Platform (REPP) is an important initiative in this context, providing technical and financial support to private sector developers of small-scale renewable energy projects across sub-Saharan Africa. REPP's portfolio includes solar, hydro, wind and geothermal power projects. REPP supports entrepreneurs, local investors, and government stakeholders by providing the tailored support and funding required to get projects off the ground and financed, that would otherwise not proceed.

REPP's investments have helped to provide clean energy access to more than one million first time users of electricity across sub-Saharan Africa. These new connections to firms and households support improved health and economic outcomes as well as countries' Nationally Determined Contributions targets.

This year, I was privileged to see mini-grid sustainable solar energy projects in Sierra Leone, providing power to 95 rural communities, including those supported by REPP. The mini-grid programme in Kambia, Moyamba and Port Loko districts now supplies power to rural communities that have no access to the main power grid, through a network of over 30 solar powered mini-grids. The project, managed by a women-led local development company, supports employment opportunities through productive use of the energy provided. The project in Moyamba district is also helping to strengthen local healthcare services via direct connections to hospitals, clinics and free-of-charge provision to community health centres.

I congratulate the REPP team and its delivery partners for this and many other examples contained in this report and look forward to seeing further progress over the coming year.

**Vicky Ford MP**

Minister of State for Development at the Foreign, Commonwealth & Development Office (FCDO)

UKaid
from the British people

Find out more about the UK's International Climate Finance on page 58.



# A WORD FROM THE MANAGER

Earlier this year, the number of people connected to electricity for the first time as a direct result of REPP's intervention passed one million. This marked a notable milestone for the platform that reflects not just the hard work and determination of the Camco team, REPP's Board and Investment Committee and the developers, but of the quality of REPP's design itself.

Since its inception in 2015, REPP has been on a quest to catalyse the growth of Sub-Saharan Africa's renewable energy sector by innovating within recognisable finance structures and taking the calculated risks that many investors fear to take.

As a result, the REPP portfolio has seen many success stories along the way, including several in-country firsts and the deployment of pioneering – and profitable - business models. It has also faced difficulties in some areas, particularly due to economic headwinds in the region which the COVID-19 crisis has exacerbated. A number of companies are having difficulties meeting profitability and some projects are struggling to reach financial close after years in development. As REPP's investment manager, Camco is doing everything we can to see these projects succeed, but failure from time to time is an inevitable part of delivering the transformational change we are seeking to create, and we remain undeterred in our approach.

Passing the one million connections milestone therefore served as a resounding testament of REPP's success and is a demonstration of how investments in distributed renewable energy solutions are delivering far-reaching health and socio-economic benefits to previously underserved communities and businesses across Sub-Saharan Africa. Before REPP's intervention, most of the newly connected households typically relied on kerosene, candles and diesel for their energy needs or simply went without. Having access to clean, reliable and more affordable energy means they are now able to enjoy improved air quality while benefiting from increased educational and income-generating opportunities through round-the-clock lighting and the productive use of energy activities. The new connections also directly support individual countries' contribution to climate action targets.

Of course, several hundred million people still live without access to electricity in Sub-Saharan Africa and even with its target of connecting 2.4 million people, REPP's contribution to closing the gap is small. But the real power of REPP lies in the impact it is having on the region's broader renewable energy market, both in the off-grid and the on-grid space: by supporting a high volume of projects and companies and adapting proven financing mechanisms to unfamiliar country contexts, REPP is giving investors more confidence and incentive to enter the market, which is in turn crowding in public and private finance and thereby further strengthening the market. To date, REPP has mobilised more than GBP 300 million from third parties.

Private finance is a key driver for change and will undoubtedly be high on the agenda when world leaders meet in Egypt for COP27 later this year. To increase investment flows in emerging markets, private lenders need to be enticed by buoyant markets and feel safe that the projects and companies they are looking to support are de-risked. The lesson from REPP is that this is not just possible, but that the market is ready to scale.

**Benjamin Hugues**

Investment Director and REPP Lead
Camco

# 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 reducing greenhouse gas emissions (GHG) 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.

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. It is funded by the UK's International Climate Finance (ICF) through the Foreign, Commonwealth and Development Office (FCDO).

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

- Peter Coveliers, Head of Group Corporate Programmes and Institutional Business Development, European Investment Fund
- Daniel Farchy, Investment Officer, EIB
- Andrew Lucas, Deputy Team Leader - Green Finance, Private Sector Department, FCDO
- Eric Usher, 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, Business, Energy and Industrial Strategy (BEIS)
- 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, an estimated 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 project risks** - both the perceived and actual front-end 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 27.

# HOW CAN REPP HELP?

REPP supports companies and projects throughout the project development process all the way to construction and/or during the company's growth phase, providing a broad range of financing services and support tailored to each developer's unique circumstances and needs. These include:

## DEVELOPMENT AND START-UP PHASE CAPITAL

REPP provides loans for selected third party development expenses (such as feasibility studies, environmental and social impact assessments, legal advice etc.). It also provides convertible loans to support the growth of start-ups in the sector.

## GAP FINANCING

REPP helps to bring projects to financial close and supports the growth of early-stage companies in the sector, by providing funding using a range of finance products, including equity and loans (junior, senior, bridging).

## NON-FINANCIAL SUPPORT

REPP helps projects and developers to access appropriate risk mitigation instruments provided by third-party providers. These instruments typically focus on risks that cannot be cost-effectively managed by the private sector - in particular, political, regulatory, currency and offtaker risk. REPP also works with governments and other stakeholders on regulatory improvements to reduce risk in the long-term.

REPP helps developers to structure project finances in the right way, and to secure finance from REPP partners and other sources of capital - both private and public.[1] It also works with lenders and risk mitigation instrument providers to coordinate their approval and due diligence requirements so that the funding process is simplified for developers. REPP incentivises refinancing to crowd in other financiers post-construction which enables the platform to recycle its capital.

REPP also supports developers and investors with financial structuring, general project guidance and, in selected cases, developer capital. It also provides business planning support, training, workshops and seminars, and facilitates learning and exchange between developers.

[1] REPP's partner concept relies on the development of partnerships and maintaining a regular communication and information exchange with financiers and risk mitigation solution providers to support its investees in advancing their projects. A full list of REPP partners can be found here: https://repp.energy/about-repp/repps-partners/.



# THE PROCESS: HOW REPP SELECTS AND SUPPORTS PROJECTS

## ORIGINATION & ELIGIBILITY

Camco's REPP team discusses project proposal with the developer and an eligibility assessment is performed.

## PROPOSAL

REPP project team decides whether to progress eligible applications to REPP's Investment Committee (IC) for concept clearance. If the concept is approved at this stage, a full proposal document is prepared and presented back to the IC.

## TERM SHEET

If the IC approves the proposal a term sheet is agreed with the developer.

## FINANCING DOCUMENTS

After successful completion of know-your-client (KYC) and due diligence processes, documentation is prepared and agreed alongside a set of conditions precedent. Following final approval, the documents are signed and, after completion of all conditions precedent, funds are disbursed as per agreed milestones.

## ONGOING SUPPORT AND MONITORING

Project team provides ongoing support on an as-needed basis, collects information for monitoring and evaluation purposes, and ensures adherence to REPP policies.

# ELIGIBILITY

REPP supports small and medium-sized private sector renewable energy projects in Africa. Projects must be between 1MW* and 25MW (up to 50MW for wind), and can be on- or off-grid, excluding corporate and industrial captive power projects.

## TECHNOLOGIES SUPPORTED:

**SOLAR PV**
incl. grid-connected, solar homes systems and battery-powered

**MINI-GRIDS**
(powered by renewable energy)

**RUN-OF-RIVER HYDRO**

**WIND**

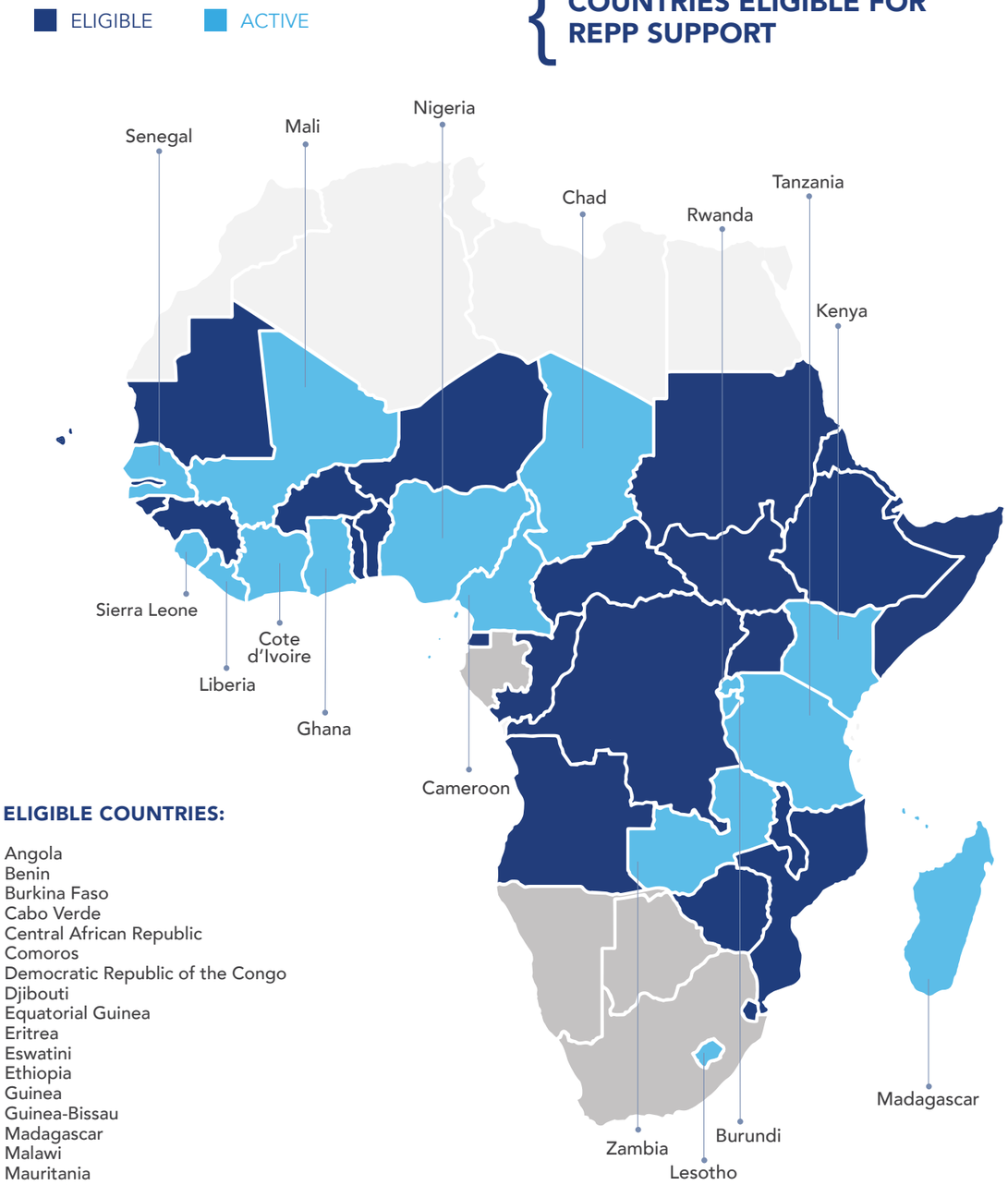
**GEOTHERMAL**

**BIOMASS, BIOGAS & WASTE-TO-ENERGY**

* This may be bundled for smaller and off-grid programmes.


*Source: Mobile Power Ltd*

## COUNTRIES ELIGIBLE FOR REPP SUPPORT




### ELIGIBLE COUNTRIES:

Angola
Benin
Burkina Faso
Cabo Verde
Central African Republic
Comoros
Democratic Republic of the Congo
Djibouti
Equatorial Guinea
Eritrea
Eswatini
Ethiopia
Guinea
Guinea-Bissau
Madagascar
Malawi
Mauritania
Mozambique
Niger
Republic of the Congo
Sao Tome and Principe
Somalia
South Sudan
Sudan
The Gambia
Togo
Uganda
Zimbabwe

# 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 – sustainable and modern energy for all, and SDG 13 – mobilise international climate finance for mitigation actions; 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 9 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). Details of asset allocations are presented on pages 27-28.

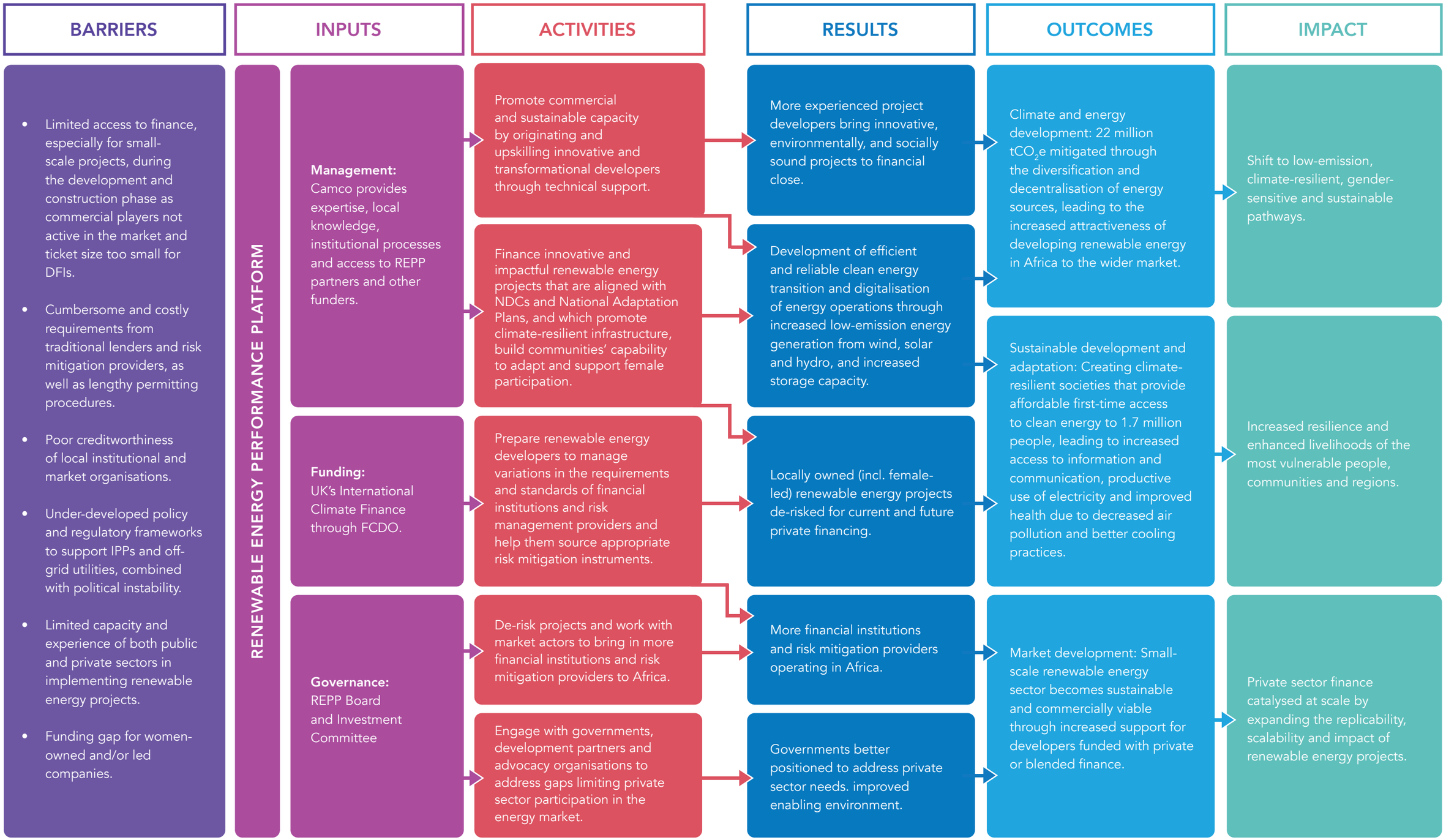
## THEORY OF CHANGE

REPP works to mitigate climate change by investing in innovative and sustainable renewable energy solutions and new market segments. This involves overcoming the barriers identified on page 15 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, because of these investments, 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.


*Solar PV mini-grid, Lesotho. Source: OnePower Ltd*

# REPP'S THEORY OF CHANGE



# 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.
- **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 laundering and terrorist financing; and
- 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.



# MEASURING OUR IMPACT

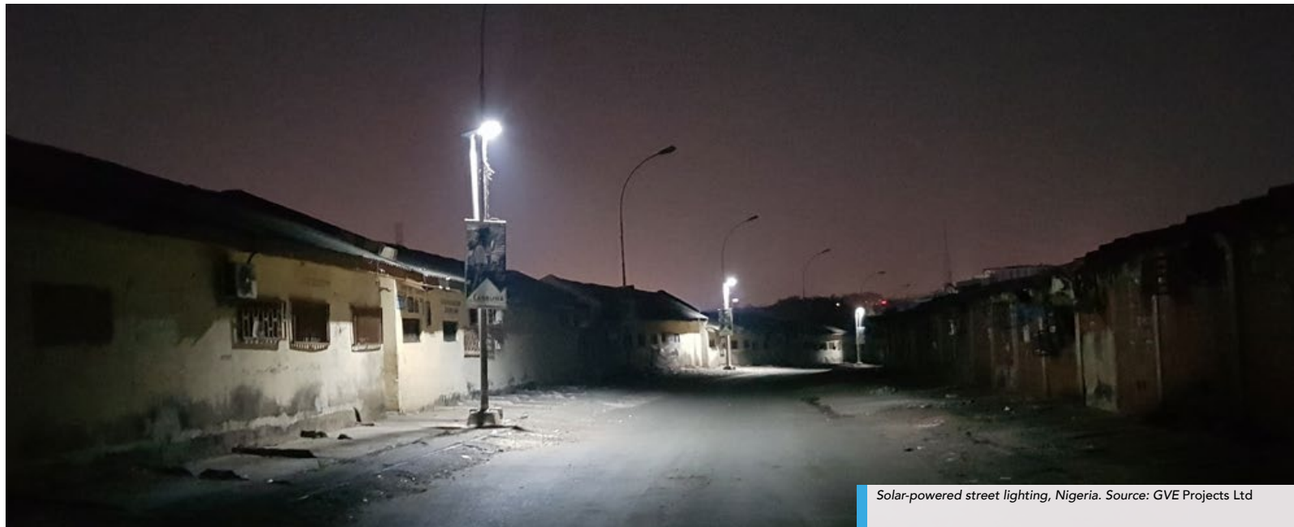
REPP uses **key performance indicators** (KPIs) to measure each project's performance against set targets in accordance with the key performance indicator methods of the UK's International Climate Finance. Performance reporting is based on objective, self-reported data provided by REPP investees, including:

- 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 Method 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) from the Global Impact Investing Network, as presented in the table on pages 32-33. 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.



*Solar-powered street lighting, Nigeria. Source: GVE* Projects Ltd

## ALIGNMENT WITH NATIONAL POLICY PRIORITIES

The successful implementation of national climate and sustainable development agendas is reliant on private sector engagement and multi-stakeholder partnerships. With many emerging and developing countries having submitted their revised conditional mitigation targets to the UNFCCC last year, there is an ever-growing focus on ensuring that private sector operations and investments are aligned with national climate and sustainable development agendas.

REPP seeks to achieve transformational change by ensuring that its direct support for projects, businesses and markets is aligned with countries' climate, energy and sustainable development priorities.

In 2020, REPP started mapping its existing portfolio against countries' needs and priorities as embodied in their Nationally Determined Contributions (NDCs), national climate policies, energy sector policies, strategies, action plans and long-term development agendas. This has now been combined with REPP's investment approach, with the assessment of a project's or company's alignment with national policy priorities integrated into decision-making.

Our assessment to date has highlighted REPP's material and valuable contribution to the implementation of the NDC targets. By supporting the conditional energy sector mitigation targets, REPP is raising the ambition of climate action.

Beyond the high-level climate goals, REPP is further supporting specific national policy priorities as outlined in energy and sustainable development policies. Whether by supporting the implementation of a national vision for energy sector transformation (see Malile, page 40), financing the implementation of national rural electrification programmes (e.g., Moyamba, page 41; GVE, page 48; and Ha Makebe, page 39) or by encouraging a gender equity-focused approach in project implementation, REPP continuously demonstrates how effectively public-private collaboration can scale impact towards the achievement of national goals.

**Further reading:** In June 2021, REPP published its Advancing national policy agendas through responsible investing report, which provides an analysis of how its investments are aligned with the climate, energy and development priorities of the countries where it operates. The report aims to encourage other impact investors and fund managers to also consider how their operations can best support the implementation of these national priorities.
https://repp.energy/wp-content/uploads/2021/05/Advancing-National-Policy-Agendas-Through-Responsible-Investing.pdf

## PERFORMANCE OF SUSTAINABILITY INDICATORS

As of 31 March 2022, REPP had contracted 38 projects spanning 16 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.

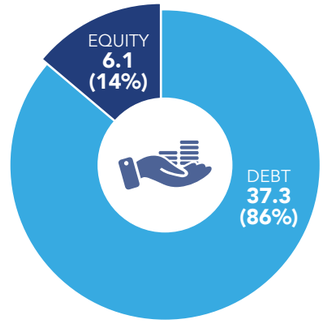
The following charts and infographics provide an at-a-glance overview of REPP's core activities, and accomplishments to date, including the programme's impact in relation to the UN's SDGs and countries' NDCs. REPP's overall impact since 2016 is detailed in the table on pages 32-33. Its audited annual financials are presented on pages 62-64.

The charts presented in this section reflect the actual performance of all 16 operational projects and the forecast cumulative performance of all 38 contracted projects as of 31 March 2022, as well as the targets set for REPP.

### REPP'S TOP INVESTMENTS OVER THE REPORTING PERIOD:

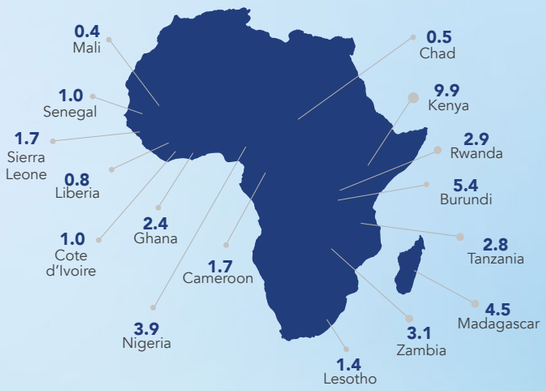
| PROJECT NAME | TECHNOLOGY | COUNTRY | CAPACITY (MW) | FUNDING INSTRUMENT | GBPm |
|---|---|---|---|---|---|
| Malile see page 40 | Three on-grid solar PV plants | Madagascar | 5.7 | Construction loan | 3.5 |
| Winch Energy see page 43 | Solar PV mini-grids | Sierra Leone and Uganda | 2.2 | Equity | 1.7 |
| PEG Africa see page 52 | Solar home systems | Ghana | 16 | Ghana | 1.5 |
| Ha Makebe see page 39 | Solar PV mini-grids | Lesotho | 1.9 | Construction loan | 1.0 |
| Moyamba see page 41 | Solar PV mini-grids | Sierra Leone | 1.3 | Construction loan | 0.9 |

### PORTFOLIO BY ASSET CLASS (GBPm)



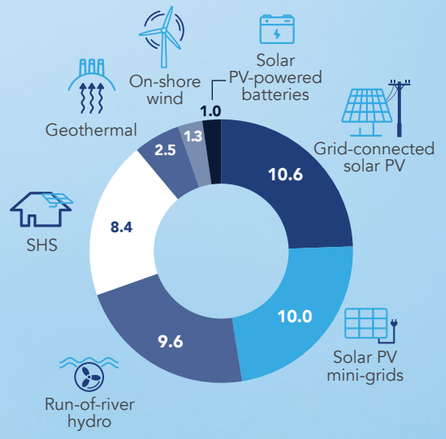
## COMMITTED INVESTMENT BY COUNTRY

**In GBPm**




## COMMITTED INVESTMENT BY TECH

**In GBPm**




## COMMITTED INVESTMENT BY FINANCIAL STRUCTURE

| DEVELOPMENT PHASE CAPITAL | | GAP FUNDING |
|---|---|---|
| GBP 3.7m | Committed | GBP 39.7m |
| ← GBP 0.7m | In documentation* | GBP 65.8m |

* In documentation refers to transactions approved by REPP's investment committee but not yet formally contracted as of 31 March 2022.

## 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 the 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: LIDERA Green Power*

## PERFORMANCE AGAINST CORE KPIs FOR CONTRACTED PROJECTS

### People with first-time access to energy

Forecast: **2,442,211**
Target: **1,700,000**

Achieved: **1,083,216**

### GHG emissions avoided over lifetime of projects

Forecast: **21,617,360 $tCO_2e$**
Target: **22,000,000 $tCO_2e$**

Achieved: **58,870 $tCO_2e$**

### Increased generation capacity

In development: **358MW**
Target: **138MW**

Achieved: **24.7MW**

### Finance mobilised

Target: **GBP 335m**

Achieved & planned: **GBP 306m**

### Improved livelihoods

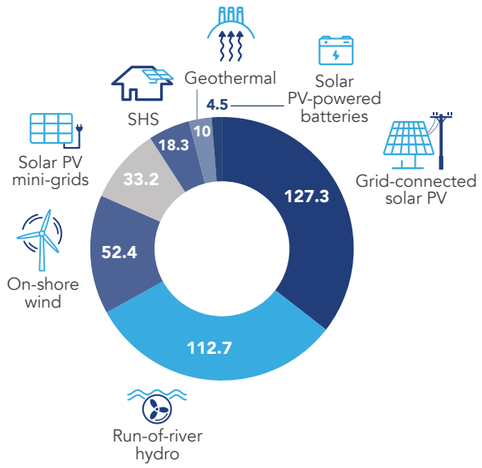
Direct job creation: **8,773**

Households using renewable energy products to support microbusiness: **3,933**

Number of critical services supported: **275**

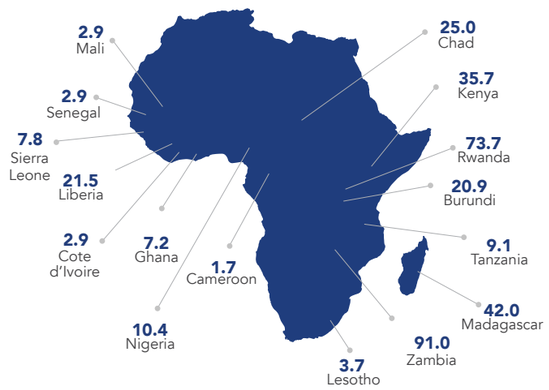
## CAPACITY BY TECH

**In MW**




## CAPACITY BY COUNTRY

**In MW**




The 2.4MW "Mwenga" wind farm, Tanzania. *Source: Rift Valley Energy Group*

| WHAT | | ALIGNMENT | | | HOW MUCH | | | | | | | | | DATA RISK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ACHIEVED | | | | | FORECAST | | TARGET | | |
| **Focus area** | Performance indicators | SDG | SDG target | IRIS+ | 2018 | 2019 | 2020 | 2021 | Q1/2022 | 2022 | 2023 | 2022 | 2023 | |
| **Principles of governance** | Number of incidents of corruption reported in the past year | 16 | 16.5 | - | NR | NR | NR | - | - | - | - | MNT | MNT | The risk on reported impact is considered low as we report actual impact achieved.<br><br>The data quality is considered high as most parameters are measured.<br><br>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.*<br><br>Number of people connected is calculated based on sales/active customers and a conservative average household size of five people. |
| | Number of people trained on anti-corruption | 16 | 16.5 | - | NR | NR | NR | 64 | - | - | - | MNT | MNT | |
| | Number of incidents reported to hotline | 16 | 16.5 | - | NR | NR | NR | 2 | - | - | | MNT | MNT | |
| | Number of ESIAs/ESMSs conducted in year | 8 | - | OI1254 | NR | NR | NR | 6 | 1 | - | - | MNT | MNT | |
| **People** | Number of injuries | 8 | 8.8 | OI3757 | NR | NR | 7 | 49 [1] | 17 | - | - | MNT | MNT | |
| | Number of fatalities | 8 | 8.8 | OI6525 | NR | NR | 2 | 3 [2] | - | - | - | MNT | MNT | |
| **Prosperity** | Number of projects reaching financial close | 13 | 13.1 | - | 4 | 8 | 16 | 21 | 21 | 30 | 39 | 30 | 39 | |
| | REPP funding committed in GBPm | 13 | 13.1a | OD5990 | 9 | 18 | 36 | 44 | 43 [3] | 68 | 68 | 110 | 172 | |
| | Finance mobilised in GBPm | 17 | 17.3 | - | 29 | 47 | 87 | 150 | 306 | 334 | 334 | 534 | 848 | |
| | Direct job creation in each year | 1, 8 | 1.2, 8.5 | OI8869 OI9028 PI3687 | 594 | 1,512 | 2,104 | 2,726 | 1,837 | - | - | MNT | MNT | |
| | Skilled jobs created in each year | 1, 8 | 1.2, 8.5 | OI8869 OI9028 PI3687 | NR | NR | 255 | 1,420 | 917 | - | - | MNT | MNT | |
| | Number of women in the workforce | - | - | OI2444 OI16978 | 129 | 278 | 501 | 519 | 357 | - | - | - | - | |
| | Local jobs created in each year | - | - | - | NR | NR | NR | 1,413 | 1,581 | - | - | - | - | |
| | Number of 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 | 1,083,217 | 1,228,036 | 1,432,271 | 1,400,000 | 1,700,000 | |
| | Number of households using products to support business / microbusiness [4] | 1, 8 | 1.2, 8.5 | PI2845 | NR | NR | 6,280 | 5,574 | 3,933 | - | - | MNT | MNT | |
| | Number of critical services supported [5] | 1 | 1.4, 1.5 | PI2822 | NR | NR | 371 | 447 | 275 | - | - | MNT | MNT | |
| **Planet** | Investments aligned with 2X Challenge criteria (GBPm) | 5 | 5.5 | - | NR | NR | 18 | 16 | 16 | - | - | MNT | MNT | |
| | Installed renewable energy capacity in (MW) | 1, 7, 13 | 1.5, 7.1 7.2, 13.1 | PD1602 | 1 | 2 | 8 | 24 | 25 | 27 | 57 | 30 | 60 | |
| | Greenhouse gases avoided cumulative ($tCO_2e$) | 3, 13 | 13.1, 3.9 | PI2764 | 2,021 | 5,958 | 22,053 | 49,911 | 58,870 | 93,266 | 175,352 | 90,000 | 180,000 | |
| | Number of countries whose NDCs are supported | 11, 13 | 13.2 | - | NR | NR | 14 | 14 | 16 | - | - | MNT | MNT | |
| | Total amount of waste generated and disposed of ($m^3$) | - | - | OI6709 | NR | NR | 140 | 124 | 102 | - | - | MNT | MNT | |
| | Total weight of hazardous waste (tonnes) | 12 | 12.4.2 | OI1346 | NR | NR | - | 1.0 | 0.2 | - | - | MNT | MNT | |
| | Number of projects in ecologically sensitive areas | 15 | 15.1.2 | - | NR | NR | NR | 3 | - | - | - | MNT | MNT | |
| | Number of projects affecting IUCN Red List species | 15 | 15.5.1 | - | NR | NR | NR | 5 | - | - | - | MNT | MNT | |
| | Number of projects in water-stressed areas | 6 | 6.4.2, 6.6.1 | OI2799 | NR | NR | NR | 4 | - | - | - | MNT | MNT | |

MNT: Monitored, no target
NR: Not reported previously

[1] The injuries have been as a result of minor incidents during construction, which investees are addressing through regular occupational health and safety training.

[2] In 2021, the overall occupational health and safety performance of investee companies was generally good. Tragically, however, a contractor of an investee company with a pre-existing medical condition died at work as the result of high blood pressure. Two community members also sadly died in 2021 after being electrocuted at home due to an illegal electricity connection. Illegal electricity connections and electricity theft are a prevailing issue in many African countries and although the connection was not wired by the investee company, the incident prompted a further health and safety audit of the company. The company has since increased its outreach work to train community members on the dangers of illegal electricity connections.

[3] This figure is lower than in 2021 due to the termination of a deal in Q1 2022.

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

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

# PERSONAL IMPACT STORIES

***"The electric pressure cooker is not only a fast way to prepare a good meal, but clean cooking is also one of the ways to empower women to spend less time on home chores and become more productive in our daily activities, meaning we have more time to participate in the development of our families."***

**- Solange Mukeshimana, Rwamacumu, Rwanda**

*Source: ARC Power Ltd*

ARC Power provides affordable, reliable and clean solar electricity to communities in Rwanda and has been supported by REPP since early 2019. The company designs, develops and installs off-grid power generation and distribution systems, to provide families and small businesses with first-time access to electricity to thrive. To date, it has connected over 9,700 people and nearly 150 businesses.

In addition to providing electricity, ARC Power hires out household appliances to domestic customers, including electric pressure cookers powered by the mini-grids. The company also hires out productive use of energy machinery to business customers to enable them to get their businesses up and running without being faced with prohibitively expensive set-up costs. Find out more on page 46.

***"Historically, the renewable energy sector in Africa has been male-dominated and with the majority of funding systemically going to these male-dominated teams. However, women – as half the population of Africa – need to be equal partners in crafting Africa's future.***

***REPP, through its funding strategies and technical assistance, helps Energicity and other developers build gender balanced teams and include women customers in their strategies, making an energy future that serves all Africans possible."***

**- Nicole Poindexter, CEO, Energicity (SL) Ltd**

*Source: Energicity Corporation*

REPP is committed to supporting women entrepreneurship by investing in women-owned and/or managed businesses, and works directly with investee companies to help them improve gender equality in the company and project implementation through the development of gender action plans. See page 36 for more on REPP's approach to supporting gender equality.

Since April 2021, REPP has been proud to support Energicity (SL) Ltd, a leading solar mini-grid operator in Sierra Leone owned and managed by trailblazing clean energy entrepreneur, Nicole Poindexter. Energicity is the most recent REPP investee to establish a gender action plan, which aims to further improve gender equality in the company and contains 18 actions and 11 indicators covering a wide range of issues, including gender awareness, inclusive recruitment and stakeholder engagement, and targeting women household and productive use of energy customers to improve women's livelihoods in rural communities.

***"Rift Valley Energy's loan for a wood working machine has enabled me to manufacture different kinds of furniture, which has led to lots of orders from the community and even an order from the government for manufacturing tables and chairs for two schools. After I paid back the loan, I took out another for a maize milling machine and now I have plans to expand my carpentry business. None of this would have been possible without Rift Valley Energy understanding my needs and how to support them in a way that I could afford."***

**- Sebastian Luhala, Lulanda village, Tanzania**

*Source: Rift Valley Energy Group*

Increasing the productive use of electricity leads to new jobs, enterprises and income generation for communities, which is why Rift Valley Energy provides credit to its customers in addition to selling renewable electricity. The developer currently provides clean electricity to over 5,000 households and businesses in Tanzania through its private distribution network powered by a 4MW hydro plant and a 2.4MW wind farm, which was commissioned in July 2020 following a critical USD 1.2 million loan from REPP. This includes power for over 400 productive use of energy appliances for small businesses and eight water pumps supplying clean water to 3,000 households.

***"My local electricity supply is unstable, so I decided to turn to an alternative source. When an upOwa agent presented their solar-powered lighting and fridge kit to me, I was convinced that it would be the best solution for me and my business. So, I invested 250,000 FCFA to get the kit, and I pay for the electricity I use using upOwa's Paygo model. I now have uninterrupted electric light for the first time, which is a huge improvement for me and my customers, and the fridge works well, enabling me to serve chilled drinks to my customers, which has led to an increase in sales."***

**- Aboubacar Yaya, Kambélé village, Cameroon**

*Source: upOwa SAS*

SHS provider upOwa SAS has connected nearly 130,000 people, 374 microbusinesses and nearly 100 critical services to electricity for the first time as a direct result of REPP's investment. Through its lease-to-own model, customers pay a deposit and then make monthly payments on a mobile phone "Paygo" money platform. Domestic options range from a 6Wp lights and phone charging-only system to a 50Wp system that provides additional power for other appliances, such as TVs. For its business customers, upOwa offers productive use of energy packages, such as its Fridge Kit, which includes three 50W solar panels, three 160Wh batteries, a fridge, a phone charger and seven lights. Find out more on page 54.

# 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 and provides capacity building support to establish gender action plans.
The most recent REPP investee to establish a gender action plan was woman-led PV mini-grid company Energicity (SL) Ltd in 2022. See page 41.

## WOMEN AND REPP

**£16m**
Investments aligned with 2X Challenge's Gender Lens Investing criteria

**9**
Women-owned and / or managed investee companies

**12**
Women-owned and / or managed projects

**1,784**
Jobs held by women

*Source: Winch Energy Ltd*

# FEATURED CASE STUDIES

Source: Camco Management Ltd

Source: upOwa SAS

Source: upOwa SAS

Source: Kalahari GeoEnergy Ltd

Source: OnePower Ltd

## HA MAKEBE

**Location**
**Lesotho**

## PROJECT SUMMARY

The second and much larger 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.

Lesotho is one of the least electrified countries in the world, with a rural electrification rate estimated at below 20% – and solar mini-grids are an excellent way of serving difficult-to-access locations. To date, 187 households and businesses in and around Ha Makebe have been connected to electricity for the first time following the erection of the country's first ever private mini-grid.

Construction of the 50kW (AC) solar mini-grid was made possible thanks to an LSL 7 million (Lesotho loti) loan from REPP in October 2018. This followed a pioneering effort to secure Lesotho's inaugural mini-grid concession by Sotho Minigrid Portfolio SPV (Pty) Ltd, a special purpose vehicle (SPV) owned by OnePower Lesotho (Pty) Ltd.

The funds were made available in local currency, which was a notable first for REPP and provided the developer with greater resilience against fluctuating exchange rates.

The pilot mini-grid in Ha Makeba was completed in 2021 and has since paved the way for the development of a larger portfolio of 10 additional mini-grids in rural service territories after REPP and the EU-funded Electrification Financing Initiative (EDFI ElectriFI) each invested LSL 75 million (~ EUR 4.4 million) in equity and senior debt into the SPV in early 2022.

The pilot mini-grid and those of the planned larger portfolio are solar PV hybrids with battery storage and limited LPG backup generation. The hybrid nature of the design is to ensure 24-hour, year-round electricity supply, including Lesotho's harsh winters.

When 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. To date, 18 construction jobs have been created through the project, with approximately 185 part-time jobs expected to be created during the full project's construction phase and a further 15 full-time jobs during operation.

Completion of the mini-grids will demonstrate the technical and commercial viability of the project at scale and will help to develop a viable business model that can be replicated in other rural, off-grid villages. In the process, the project will assist in building local capacity, develop local skills and contribute to socio-economic development.

### Country policy alignment

- 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.

## AT A GLANCE

**Technology:**
Solar PV mini-grids

**Project type:**
Off-grid

**Offtaker:**
Off-grid communities

## KPIs

GHG emissions avoided:
**Pilot: 37 $tCO_2e$ (achieved, cumulative)**
Whole project:
819 $tCO_2e$ per year (target)

People with first-time access to clean energy:
**Pilot: 887 (achieved)**
Whole project: c.30,000 (target)

Planned capacity:
**Pilot: 50kW plus 152 kWh battery storage (achieved)**
Whole project: 1.87MW plus 5MWh battery storage (target)

## FUNDING STRUCTURE

### PILOT PHASE

**Signed:** 2 October 2018
**Funding type:** Convertible loan
**REPP funding:** LSL 7 million

### PHASE TWO

**Signed:** 24 December 2021
**Funding type:** Equity and senior debt
**REPP funding:** LSL 75 million

## SDGs


*"REPP has been a critical partner to 1PWR for several years and the REPP team's ongoing support and dedication to our mission enabled us to close on our landmark mini-grid transaction in Lesotho, which will bring electricity access to more than 30,000 people. We are proud of our partnership with REPP and look forward to our continued cooperation to bring clean and affordable electricity services to communities in Lesotho."*

*Matt Orosz, CEO, OnePower Lesotho Ltd*

# MALILE

Source: LIDERA Green Power

OPERATIONAL

**Location**
Cities of Diego Suarez, Mahajanga and Toamasina, **Madagascar**

## PROJECT SUMMARY

Three large-scale heavy fuel oil (HFO) plants in Madagascar are being hybridised with solar PV thanks to a USD 6 million bridge loan from REPP to developer LIDERA Green Power.

Currently, 75% of the country's power is generated from expensive and high-emission HFO and diesel plants, but the government is keen to reduce dependence on fossil fuels and shift towards more sustainable sources. Hybridising fossil-fuel plants with renewable energy not only serves to reduce emissions, but also makes single energy sources more climate resilient against availability of supply and increases energy security through diversification.

Under LIDERA's plans, 10MW, 12MW and 20MW of solar PV will be installed close to the existing HFO plants in the cities of Diego, Mahajanga and Toamasina, respectively. By doing so, the solar plants will be able to take advantage of the existing infrastructure, significantly reducing costs and the environmental impact of the development.

The project, which is the first large-scale PV hybridisation of HFO plants in Madagascar, is being carried out in two phases in order to meet deadlines set out by the Malagasy government. REPP is financing the first phase, which will deliver a total installed capacity of 5.7MW across the three sites. The second phase of 36.3MW is planned for Q2 2023.

As of 31 March 2022, LIDERA had installed 2MW and 1.25MW of solar PV panels at the plants in Toamasina and Mahajanga, respectively. Work to install a further 2.4MW at a third plant near Diego is underway and expected to be finished in Q4 2022.

REPP's bridge loan is enabling the borrower to fund the EPC costs for the first phase, which if successful will act as a proof of concept to encourage other lenders to support the development and construction of the second and larger phase.

Once the sites are operational, the owner of the HFO plants will purchase power from the PV projects and then on-sell to the national utility. The project is expected to deliver significant socio-economic benefits to Madagascar's economy and population by reducing the country's reliance on expensive HFO and providing job opportunities during the construction and operation of the plant.

### 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:**
Grid-connected solar PV

**Project type:**
Grid-connected

**Offtaker:**
The HFO IPP will purchase the power and on-sell to the national utility, JIRAMA.

## KPIs - whole project

GHG emissions avoided:
5,552 $tCO_2e$ per year
**Achieved: 4,907 $tCO_2e$ (cumulative)**

**Improves stability of grid supply**

MW Planned capacity: 5.7MW
**Achieved: 3.3MW**

## FUNDING STRUCTURE

**Signed:** 22 December 2020
(financial close achieved on 30 July 2021)

**REPP funding:** USD 6 million

**Lending type:** Bridge loan

## SDGs



*"As the first large-scale PV hybridisation of heavy fuel oil plants in Madagascar, the Malile project is truly ground-breaking and once fully operational will significantly support the country's GHG emission targets. REPP's support has been instrumental in getting the first phase off the ground and helping to prove the concept to further lenders."*

*Tidiani Tall, CEO, LIDERA Green Power*

# MOYAMBA

Source: Energicity Corporation

OPERATIONAL

**Location**
Kambia, Moyamba and Port Loko districts of **Sierra Leone**

## PROJECT SUMMARY

A USD 1.25 million term loan from REPP is being used to support the construction and operation of 9 new solar-powered mini-grids in Sierra Leone, and the operation of a further 23 existing sites.

The 1.3MW Moyamba portfolio is being developed by Energicity (SL) Ltd, which is a subsidiary of Energicity Corporation, a woman-led business. Energicity (SL) Ltd won a concession to develop and operate the 32 mini-grid sites through a competitive bid issued by Sierra Leone's Ministry of Energy's Rural Renewable Electrification Project.

The electrification project was conceived in the wake of the 2014 Ebola crisis to support Sierra Leone's health care system, and a significant part of the Moyamba project is targeted towards strengthening the system's resilience via direct connection to hospitals and clinics. As part of the bidding agreement, Energicity – through Energicity (SL) Limited – is required to provide at least 6.6kWh/day of electricity to community health centres free of charge.

As well as supporting health care, the mini-grids provide electricity to surrounding communities and are suitable for productive uses of energy, such as milling and grinding, thus providing income-generating opportunities for local businesses and direct job opportunities for communities. Energicity is also developing "behind the meter" relationships with customers, providing electric wiring of homes and value-added services such as leasing freezers and electric motors.

Energicity provides operational services to the existing and new mini-grids, which are all located in western Sierra Leone. This includes technical O&M, customer connection, electricity sales, revenue collection, monitoring and evaluation and other responsibilities.

As of 31 March 2022, 27 of the 32 mini-grids were operational and generating revenue, following partial funding from the UK's Foreign, Commonwealth and Development Office Construction of the remaining mini-grids is expected to be completed by Q1 2023.

By having 60% female representation in senior management, the Moyamba project meets the 2X Challenge criteria for gender lens investment.

### 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:**
Solar PV mini-grids

**Project type:**
Off-grid

**Offtaker:**
Households and commercial customers

## KPIs

GHG emissions avoided:
2,847 $tCO_2e$ per year
**Achieved: 416 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 79,108 /
**Achieved: 17,518**

MW Planned capacity:
**1.3MW / Achieved: 0.8MW**

## FUNDING STRUCTURE

**Signed:** 1 April 2021

**Lending type:** Senior term loan

**REPP funding:** USD 1.25 million

## SDGs

*"Energicity is pleased to partner with the Renewable Energy Performance Platform to develop our concession in Sierra Leone. With the USD 1.25 million in funding, Energicity's subsidiary is working to provide electricity to nearly 80,000 people, providing affordable, reliable and scalable electricity so that families and communities can thrive."*

*Nicole Poindexter, CEO and Founder, Energicity Corp*

# MPANDA

Source: Hydroneo East Africa Ltd

**IN DEVELOPMENT**

**Location**
Bubanza Province,
north-western **Burundi**

## PROJECT SUMMARY

Developer Hydroneo East Africa Ltd is looking to reach financial close on its 10.2MW run-of-river hydro project in Burundi by 2023 thanks to a USD 1 million development loan from REPP.

Construction of the power plant in Bubanza Province in north-western Burundi would then take an estimated 18-24 months from financial close to reach commercial operation. Mpanda Hydropower will be among the first hydro IPPs to come to market in Burundi, thereby holding significant demonstration impact and paving the way for greater private sector participation.

Today, Burundi is one of the least electrified countries in the world, with estimates putting national electrification at 11.7% and total installed capacity at 87MW. Once operational, the Mpanda plant will increase Burundi's annual power production by over 10%, in the process easing the increasing gap between power demand and supply in the country while supporting its sustainable development targets.

The Mpanda project originally began as a government-led initiative to build a hydropower dam, with construction work starting on earlier designs in 2012. However, works were halted in 2015 due to a funding shortfall.

The project was subsequently handed over to the private sector to redesign as a run-of-river project under a 25-year build-own-operate-transfer ("BOOT") concession with the Burundi government. Hydroneo's revised design involves a 10-metre weir, reducing the area under flooding from 100ha to 5ha, and requiring no population resettlement.

REPP's development loan is being used to co-finance outstanding development works necessary for achieving financial close, including a bankable ESIA and detailed feasibility study. Reaching financial close will unlock a further USD 25 million in senior debt for construction of the plant, including a potential ~USD 4 million construction loan from REPP.

### 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 listed in the Updated NDC 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.

## AT A GLANCE

**Technology:**
Run-of-river hydro

**Project type:**
Grid-connected

**Offtaker:**
Regie de Production et de Distribution d'Eau et d'Electricite ("REGIDESO")

## KPIs

GHG emissions avoided: 18,495 $tCO_2e$ per year

Improves stability of grid supply

MW Planned capacity: 10.2MW

## FUNDING STRUCTURE

**Signed:** 25 September 2020
(CPs met in June 2021)

**Lending type:** Development loan

**REPP funding:** USD 1 million

## SDGs


*"The Mpanda project embodies our key values at Hydroneo: building clean energy projects with strong social contributions and a positive environmental impact. It was designed to help bring the National Development Plan of Burundi to life with the construction of health and education facilities and is a first step in our long-term partnership with the Government of Burundi. We are thrilled to join forces with REPP and our local partners to serve the ever-growing needs of Burundi's families and businesses."*

*Samuel Zekri, CEO, Hydroneo*

# WINCH

Source: Winch Energy Ltd

**OPERATIONAL**

**Location**
**Sierra Leone and Uganda**

## PROJECT SUMMARY

Plans to build a portfolio of 49 solar PV mini-grids in rural Sierra Leone and Uganda are progressing well following a USD 4.2 million loan from REPP and co-funder, FMO.

Once built, the mini-grids will provide clean, reliable and cost-competitive electricity to 55,000 people across the two countries, which have among the lowest electrification rates in the world. Currently, around 23% of Sierra Leone's population is connected to electricity, which is considered a significant impediment to the nation's growth and development, with the majority of households in rural areas dependent on kerosene, candles, fuel wood and charcoal. The situation is similar in Uganda, which has a rate of electrification of around 41%, although this is far lower in rural areas.

Under the plans, developer Winch Energy Limited is constructing and operating 24 mini-grids in Sierra Leone and a further 25 in Uganda, with a combined capacity of 2.2MW. REPP's loan will enable the company to scale up its operations, which in turn will improve the likelihood of securing more funding and building further mini-grids.

The mini-grids being used in the project have been developed by Winch Energy and employ a remote power unit (RPU), a containerised solution with canopy-mounted solar PV panels with battery storage, delivering a reliable electricity supply to rural areas.

As of 31 March 2022, Winch had delivered and installed 12 of the 24 planned mini-grids in Sierra Leone, providing power to 1,300 customers, 250 businesses and 12 critical services. The remaining 12 mini-grids in Sierra Leone will see an additional 3,000 customers connected and are expected to be commissioned in Q3 2022. All 25 of the RPUs for Uganda had been built and assembled at Winch's facility in Sicily, Italy, and were due to be delivered and installed in April.

Around 100 people have been employed during the construction phase of the project, with over 20 full-time employees during operation.

### 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), as well as Uganda Vision 2040 target of achieving 5GW installed solar PV capacity by 2040.

## AT A GLANCE

**Technology:**
Solar PV mini-grids

**Project type:**
Off-grid

**Offtaker:**
Rural communities

## KPIs

GHG emissions avoided: 964 $tCO_2e$ per year
**Achieved: 65 $tCO_2e$ (achieved, cumulative)**

People with first-time access to clean energy: 55,000 /
**Achieved: 6,330**

MW **Planned capacity:**
2.2MW / **Achieved: 0.3MW**

## FUNDING STRUCTURE

**Signed:** 17 September 2021

**Lending type:** Senior term loan

**REPP funding:** USD 2.1 million

## SDGs


*"We are obviously delighted with the closing of this debt financing from FMO and REPP, which represents a landmark for the off-grid industry in Africa and worldwide. This first tranche represents the beginning of our investment program with our partner NOA and soon to follow will be additional investments in Sierra Leone and Uganda and we are also targeting Nigeria and Ethiopia for 2022."*

*Nicholas Wrigley, CEO, Winch Energy*

# SELECTED CASE STUDY UPDATES

Source: Mobile Power Ltd

Source: GVE Projects Ltd

Source: PowerGen Renewable Energy


Source: GVE Projects Ltd

Source: upOwa SAS

Source: Mobile Power Ltd

Source: ARC Power Ltd

# ARC POWER

Bugesera and Gatsibo Districts,
**Rwanda**

OPERATIONAL

## PROJECT SUMMARY

A two-phase project to roll out up to 80,000 connections in the next four years across three countries through a combination of integrated and standalone mini-grids and distributed renewables. The first phase involving four mini-grid generation systems serving six distribution networks and with a combined capacity of 0.1MW has been completed. A total of 9,717 people and 154 microbusinesses across fourteen villages in Bugesera and Gatsibo Districts have been connected to electricity provided through the networks.

## AT A GLANCE

**Technology:**
Solar PV mini-grids

**Project type:**
Off-grid

**REPP funding:**
GBP 900,000 convertible loan

## KPIs

GHG emissions avoided:
**Phase 1: 68 $tCO_2e$ (achieved, cumulative)**
Whole project: 4,928 $tCO_2e$ per year (target)

People with first-time access to clean energy:
**Phase 1: 9,717 (achieved)**
Whole project: 400,000 (target)

MW Planned capacity:
**Phase 1: 0.1MW (achieved)**
Whole project: 2.24MW

## SDGs

**Country policy alignment:**
Supports Rwanda's conditional 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, which aims to increase renewables to being 60% electricity generation mix and ensure 100% electricity access by 2035.

Source: Buffalo Energy Ltd

# BUFFALO ENERGY

Zambia

IN DEVELOPMENT

## PROJECT SUMMARY

A multi-project portfolio utilising a range of technologies with a combined generating capacity of over 100MW. To date, REPP's support has enabled developer Buffalo Energy Ltd to continue to grow its pipeline while also progressing its existing projects, including the procurement and management of a wind measurement campaign on a 50MW wind project, and the subsequent completion of the full feasibility study for that project. REPP's support has also facilitated the completion of various environmental and geotechnical studies on a 25MW solar project.

## AT A GLANCE

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

**Project type:**
Grid-connected and off-grid

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

## KPIs

GHG emissions avoided:
49,869 $tCO_2e$ per year

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

MW Planned capacity:
30MW*

## SDGs

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

* Estimate of achieved capacity during REPP's support

Source: Kalahari GeoEnergy Ltd

# BWEENGWA

Southern Province
**Zambia**

## PROJECT SUMMARY

Ground-breaking plans to build Zambia's first commercial geothermal power plant are progressing and positive results have been achieved from the exploration activities. Developer Kalahari GeoEnergy Ltd, which has previously privately financed the drilling of 18 exploratory wells, has used REPP's USD 3.2 million loan to drill and test an additional three slim wells, and to deepen a further two. This has enabled the collation of additional data for reservoir modelling and the development of a feasibility study that was completed in March 2022. The intention is to install a prototype power unit of up to 251kWe at one of the new wells with other industrial applications, although the ultimate objective is to develop a 10MW power plant.

## AT A GLANCE

**Technology:**
Geothermal

**Project type:**
Exploratory (drilling)

**REPP funding:**
Up to USD 3.2 million convertible loan

## KPIs*

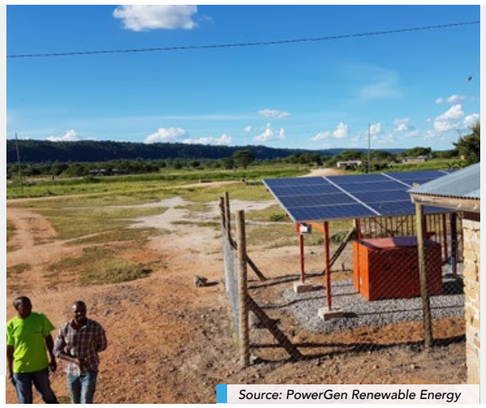
GHG emissions avoided:
58,180 $tCO_2e$ per year

MW Planned capacity: 10MW

* Note: REPP is providing finance for drilling and part of the costs of establishing a prototype unit. KPIs refer to the plant once commercially operational.

## SDGs

**Country policy alignment:**
Supports Zambia's Updated NDC (2021) conditional target to reduce GHG emissions by 47% by 2030 and contributes USD 1.2 million towards the ~USD 35 billion cost of implementing conditional mitigation measures. Supports diversification of energy mix, including through increased geothermal exploration, outlined as priority in National Energy Policy (2019) and Eighth National Development Plan (2022-2026).



Source: PowerGen Renewable Energy

# CBEA POWERGEN TANZANIA

Tanzania

OPERATIONAL

## 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 2022, 932 homes and microbusinesses had been connected via eight mini-grids, providing electricity to about 4,660 people.

## 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: 231 $tCO_2e$ (cumulative)**

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

MW Planned capacity: 1.1MW
**Achieved: 0.04MW**

## SDGs

**Country policy alignment:**
Supports Tanzania's Updated NDC (2021) targets to reduce GHG emissions by up to 35% by 2030, explore options for diversification of the energy system 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.

Source: Smart Energies International

# DJERMAYA

Hadjer-Lamis Region
**Chad**

IN DEVELOPMENT

## 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 2022, all financing documents for the project had been signed and financial close is expected in Q1 2023. Technical reports have all been completed, financed by REPP's technical assistance, and an ESIA and livelihood restoration plan have also been established.

### 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

Improves stability of grid supply

MW Planned capacity: 25MW (AC)

### SDGs

**Country policy alignment:**
Supports Chad's conditional Updated NDC (2021) target to reduce GHG emissions by 19.3% by 2030. Project will help alleviate poverty and foster economic activity by providing lower cost power to the grid than fossil fuel-fired generation, thus contributing to Chad Vision 2030's (2017) target of becoming an emerging country. Djermaya has been identified as a priority project in the Emergency Plan for Access to Electricity 2021-2023 (2020).

Source: Marco Borero

# MARCO BORERO

Nyeri County
**Kenya**

IN DEVELOPMENT

## PROJECT SUMMARY

A USD 525,000 equity investment from REPP enabled developer Marco Borero to reach financial close on the project 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 developer is currently working to connect the site to the grid. Once completed, it will be among the first privately owned solar plants to reach commercial operation in Kenya.

### AT A GLANCE

**Technology:**
Grid-connected solar PV

**Project type:**
Grid-connected

**REPP funding:**
USD 525,000 equity and shareholder loans

### KPIs

GHG emissions avoided: 1,929 $tCO_2e$ per year

Improves stability to grid supply

MW Planned capacity: 1.65MW (DC)

### 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 Vision 2030 (2007) and the "Big Four" agenda (2018), which identify energy as one of the enablers for sustained economic growth.

Source: GVE Projects Ltd

# GVE NIGERIA

**72 villages in rural Nigeria**

OPERATIONAL

## 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 Borno, Edo, Plateau and Rivers states, resulting in a 0.43MW increase in renewable generating capacity and the connection of 25,915 people to electricity for the first time. ESIAs had been completed for all the sites and work is progressing.

### 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: 596 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 73,500
**Achieved: 25,915**

MW Planned capacity: 2.72MW
**Achieved: 0.43MW**

### SDGs

**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.

Source: Virunga Power

# MIDDLE NZOIA AND GITUGI

**Central and Western Kenya**

IN DEVELOPMENT

## PROJECT SUMMARY

This project involves the construction of two run-of-river hydropower plants with a combined generating capacity of 15MW, which once built will improve the reliability of the Kenyan national grid and have far-reaching benefits for local communities. As of 31 March 2022, the project was at an advanced stage of development; however, signing of the power purchase agreement has been delayed as a result of a slump in demand for power in Kenya since the COVID-19 crisis.

### AT A GLANCE

**Technology:**
Run-of-river hydro

**Project type:**
Greenfield, grid-connected

**REPP funding:**
USD 751,000 in development capital

### KPIs

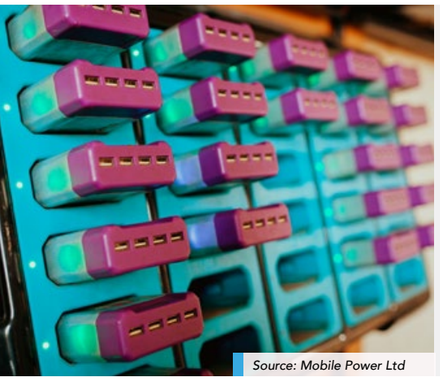
GHG emissions avoided: 44,044 $tCO_2e$ per year

Improves stability to grid supply

MW Planned capacity: 15.07MW

### SDGs

**Country policy alignment:**
Supports Kenya's Updated NDC (2020) target to abate GHG emissions by 32% by 2030 and the objectives of the National Energy Policy (2018), which includes the development of small hydro. By developing energy infrastructure, Virunga Power is supporting the manufacturing and other development priorities outlined in the "Big Four" agenda (2018).



Source: Mobile Power Ltd

# MOBILE POWER

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

OPERATIONAL

## PROJECT SUMMARY

Solar-powered battery rental business Mobile Power has experienced significant growth since its Series A and is now preparing to raise a Series B. The company provides power to customers through rentable "MOPO Batteries", which are charged by solar-powered "MOPO Hubs". As of 31 March 2022, the company had 370,000 monthly rentals and has created 370 local full-time jobs, 37% of which are 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.

## 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
**Achieved: 120 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 273,800
**Achieved: 151,463**

Planned capacity: 4.5MW
**Achieved: 0.36MW**

## SDGs

**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% (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: Voltalia

# MUBUGA

Gitega Province
**Burundi**

OPERATIONAL

## PROJECT SUMMARY

This operational 7.5MW* solar PV power plant 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.

## 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: 2,542 tCO2e per year**

**Improves stability of grid supply**

**Installed capacity: 7.5MW***

* 8.67MWp DC

## 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 also listed in the Updated NDC 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.

Source: Gigawatt Global Liberia Ltd

# MOUNT COFFEE

Montserrado County
**Liberia**

IN DEVELOPMENT

## PROJECT SUMMARY

This ground-breaking project by developer Gigawatt Global involves the construction of a 20MW solar farm that will increase Liberia's generation capacity by 15%. It will also increase the resilience of its electricity supply to climate change by complementing a nearby hydropower dam which experiences periods of significantly reduced productivity during the dry season due to low water levels, made worse by the increased prevalence of droughts. A REPP-funded ESIA has been completed for the project.

## AT A GLANCE

**Technology:**
Grid-connected solar PV

**Project type:**
Greenfield, grid-connected

**REPP funding:**
USD 615,000 development loan

## KPIs

GHG emissions avoided: 23,772 $tCO_2e$ per year

Improves stability to grid supply

Planned capacity: 20MW

## SDGs

**Country policy alignment:**
Supports Liberia's Updated NDC (2021) conditional target to reduce GHG emissions by 64% by 2030, including through installation of 100MW of renewable energy plants, and make renewable energy >75% of the energy mix, as outlined in the Rural Energy Strategy and Master Plan (2016).

Source: Rift Valley Energy Group

# MWENGA

Mufindi District, Iringa region
**Tanzania**

OPERATIONAL

## 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 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.

## AT A GLANCE

**Technology:**
On-shore wind

**Project type:**
Grid-connected

**REPP funding:**
USD 1.2 million mezzanine loan

## KPIs

**GHG emissions avoided: 3,321 $tCO_2e$ (cumulative)**

**Improves stability to grid supply**

**Installed capacity: 2.4MW**

## SDGs

**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 and the 85% electricity access by 2026 target.

Source: PAS Solar Ltd

# PAS SOLAR NIGERIA

Northern and southern regions,
**Nigeria**

**OPERATIONAL**

## PROJECT SUMMARY

PAS Solar provides affordable clean energy to off-grid communities in Nigeria. The company uses solar home system kits to deliver energy on an energy-as-a-service basis, which means customers do not buy the kits but rather pay monthly fees for use of electricity generated. As of 31 March 2022, PAS Solar has established 5,735 connections for households and micro-enterprises, providing first-time clean electricity access to over 28,600 people, as well as to over 200 businesses.

## AT A GLANCE

**Technology:**
Solar home systems

**Project type:**
Off-grid

**REPP funding:**
USD 2.2 million development loan; USD 1.6 million equity

## KPIs

GHG emissions avoided: 1,560 $tCO_2e$ per year
**Achieved: 1,728 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 52,000
**Achieved: 28,673**

MW Planned capacity: 0.5MW
**Achieved: 0.3MWp**

## SDGs


**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.

Source: PowerGen Renewable Energy

# POWERGEN

**Benin, Kenya, Nigeria, Sierra Leone and Tanzania**

**OPERATIONAL**

## PROJECT SUMMARY

Over 116,000 people and 2,218 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, of which over 75,000 people and all of the businesses are a direct result of REPP's investment. Developer PowerGen Renewable Energy is also scaling up its productive use programmes, which include electric cooking, e-mobility and cold storage, 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.

## 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: 1,973 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 480,000
**Achieved: 75,830**

MW Planned capacity: 19.9MW
**Achieved: 2.8MW**

## SDGs


**Country policy alignment:**
Supports all NDC targets to reduce GHG emissions. Strongly aligned with Nigeria's aim to deliver energy access through a combination of centralised and decentralised approaches. Supports Kenya's goal of reaching universal energy access by 2022 (National Electrification Strategy 2018), Sierra Leone's conditional 95% by 2030 electrification target (Updated NDC, 2021) and Tanzania's 60% by 2026 (National Five-Year Development Plan 2021/22-2025/26).

Source: PEG Africa

# PEG AFRICA

**Cote d'Ivoire, Ghana, Mali, Senegal**

**OPERATIONAL**

## PROJECT SUMMARY

PEG Africa is a leader in deploying and financing solar products to rural and peri-urban households and businesses in West Africa. It focuses on providing embedded finance for useful and productive assets, such as solar home systems, via its pay-as-you-go (PAYG) financing model. As of 31 March 2022, the company had connected over 1 million people to electricity through its products, many of whom did not have access to electricity before. Nearly 600,000 of these people were connected following REPP's investments in the company. PEG Africa also sells productive use equipment, such as solar-powered water pumps.

## AT A GLANCE

**Technology:**
Solar home systems

**Project type:**
Off-grid

**REPP funding:**
USD 3.7 million (various types)

## KPIs

GHG emissions avoided: 15,324 $tCO_2e$ per year
**Achieved: 33,348 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 464,000
**Achieved: 598,751**

MW Planned capacity: 16MW
**Achieved: 3.9MWp**

## SDGs


**Country policy alignment:**
Supports all countries' NDC targets to reduce GHG emissions and increase use of renewables. Contributes towards Cote d'Ivoire's universal electrification goal (National Renewable Energy Action Plan, 2016), Mali's 87% energy access by 2030 target (Mali SE4All Investment Plan 2019), Senegal's target for 81.6% electricity access in rural areas by 2023 (Priority Action Plan 2019-2023, 2018) and Ghana's Renewable Energy Master Plan (2019) goal of electrifying 1,000 communities through decentralised electrification options.

Source: Powerhive

# POWERHIVE

Kisii and Nyamira counties
**Kenya**

**OPERATIONAL**

## 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.

## 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: 875 $tCO_2e$ (cumulative)**

People with first-time access to clean energy: 90,000
**Achieved: 24,806**

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

## SDGs


**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.

Source: upOwa SAS

# UPOWA

Cameroon

OPERATIONAL

## 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 on a mobile phone money platform with targeted repayment periods of 18-24 months. As of 31 March 2022, nearly 130,000 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 374 micro-businesses and nearly 100 critical services such as schools, clinics, hospitals and water pumping stations.

### 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 emissions avoided: 9,473 $tCO_2e$ per year
**11,372 (cumulative)**

People with first-time access to clean energy: 1,000,000
**Achieved: 129,996**

MW Planned capacity: 1.73MW
**Achieved: 0.4MW**

### SDGs


**Country policy alignment:**
Supports Cameroon's Updated NDC (2021) conditional target to reduce GHG emissions by 35% by 2030 and make renewables 25% of energy mix by 2035. 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: PowerGen Renewable Energy

Source: Virunga Power

# VIRUNGA POWER

Burundi, Kenya, Tanzania and Zambia

IN DEVELOPMENT

## 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 nearly three million people across four countries. 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.

### AT A GLANCE

**Technology:**
Run-of-river hydro

**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

Improves stability to grid supply

MW Planned capacity: 100MW

### SDGs


**Country policy alignment:**
Supports all countries' NDC targets to reduce 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 to diversify its energy mix (National Energy Policy, 2019).

Source: LIDERA Green Power

# FINANCE IN FOCUS

## GENDER LENS INVESTING IN AFRICA'S RENEWABLE ENERGY SECTOR

In most African communities, particularly in rural areas, women and girls are responsible for sourcing fuel, paying for it, and managing its use. This means women have a pivotal role in enabling universal energy access and tackling climate change both as energy users and as active participants in the renewable energy sector itself.

But Sub-Saharan Africa ranks as having the **highest gender inequality rating in the world** according to the UNDP Gender Inequality Index. As with all sectors, this is holding back the growth of renewables while impeding the opportunities and prospects of women and girls.

Overcoming this inequality and empowering women is a crucial part of the solution to many central development challenges, not just in terms of transitioning to a low-carbon energy system, but also in terms of effective family planning, alleviating poverty, improving healthcare and ensuring quality education for all.

### BARRIERS

Despite the many advantages of increasing women's involvement and autonomy, clean energy companies often overlook them when putting together their business plans and completing community consultations. As a result, the products and services provided often fail to meet the needs of half of the population. And within the sector's workforce itself, less than a third of employees are women according to IRENA's Renewable Energy: A Gender Perspective.

The reasons for why gender inequality remains so prevalent in Africa are **multiple, complex and multisectoral.**

At the same time, female renewable energy entrepreneurs are struggling to access the financing and business support they need to grow their companies. Although Africa has a higher share of female-owned businesses than anywhere else - which demonstrates the very active and important role women play in the continent's commercial sector - the African Development Bank has estimated that there is a **$42 billion financing gap** for African women entrepreneurs across business value chains.

Furthermore, for the women that do embark on careers in the renewable energy sector, their career development prospects are often limited by a dearth of gender-specific training and their lack of skills, which is itself a result of a lack of access to education and training.

### OPPORTUNITIES

Funders and renewable energy companies who adequately address the role and needs of women in their business plans stand to stay a step ahead of their rivals. Research has shown that **investing in women-led and/or women-owned companies makes sense from an investment return perspective**, with US-based Boston Consulting Group finding that female-founded companies deliver twice as much revenue per dollar invested as male-founded companies. At the company level, McKinsey found businesses with more diverse board and executive teams performed better.

In the context of Africa's clean energy space, the combination of a diverse team and a more inclusive stakeholder engagement results in better products for the end-user, leading to increases in productivity, organisational effectiveness, return on investment and higher consumer satisfaction.

### MAKING IT HAPPEN

Gender lens investing in Africa's renewable energy sector makes sense not just from energy access and climate change perspectives, from a profitability one too. But how do you encourage more of it and break down the multiple barriers holding back gender equality?

On its part, REPP's investment manager, Camco, has been trialling financial incentives to push portfolio companies to implement gender action plans (GAPs), thereby improving the approach to gender within the companies themselves while making them more attractive to gender-conscious lenders. This is how it works:

1. Applications for investments go through REPP's standard investment decision process (see page XX), including on pricing.
2. Once the investment is made, companies are encouraged to participate in the GAP programme. This involves carrying out a baseline gender assessment, with targets set with the company in line with the 2X Challenge's gender lens investing criteria and based on the gaps identified (see BOX).
3. An incentive of ~0.5-1% reduction in interest rate is then approved by REPP's Investment Committee to the loan or preference shares. Progress is then monitored each year and if targets are reached then the incentive is applied.

As of 31 March 2022, **GBP 16 million of investments** made through REPP are aligned with the 2X Challenge gender lens investing criteria. REPP has also provided investees with training and a toolkit to assist, as well as individual assistance in drafting GAPs.

### HOW TO CREATE A GAP

REPP investees work with Camco to develop a bespoke GAP using a three-step approach:

1. Establish the company's gender baseline by performing a **gender baseline assessment** and identify any gaps that exist in terms of equality. This involves the company and Camco analysing existing policy frameworks, gender capacity, pay gaps and equal opportunities for continuing professional development. At the project level, it is also important to assess the operating context and whether the company's stakeholder engagement with the community and its customers is as inclusive as it should be.
2. The GAP is then established to bridge the gaps. The plan should identify all of the actions necessary to resolve any gender inequalities and set specific, measurable, quantitative and timebound targets. Investees should set targets that are aligned with the 2X Challenge's gender lens investing criteria and update these targets over time to ensure continued progress.
3. Once the targets have been agreed, the investee begins implementing the GAP. Actions are monitored and reviewed on an annual basis based on a **monitoring plan** established as part of the GAP.

To **incentivise** the implementation of the GAP, investees who meet their targets receive an interest rate reduction agreed at the time of approving the GAP and paid retrospectively once the targets have been achieved.

# ABOUT THE UK'S INTERNATIONAL CLIMATE FINANCE

UK International Climate Finance (ICF) is one of the instruments through which the UK delivers its international commitments under the Paris Climate Agreement. This includes the collective commitment to provide at least USD 100 billion in climate finance a year to support developing countries as they seek to adapt to the impacts of climate change and reduce their emissions.

## INTERNATIONAL MOBILISATION OF PUBLIC AND PRIVATE SECTOR ICF

In 2021, the UK secured climate finance commitments under its Presidency of G7 and COP26, culminating in the Glasgow Climate Pact which will drive action on mitigation, adaptation, finance and collaboration. The Pact completes the Paris Rulebook and keeps alive the goal of limiting global temperatures from rising more than 1.5C, while cementing progress on finance for climate action, adaptation and loss and damage. For the first time, COP agreed a position on phasing down unabated coal power and significant progress on adaptation finance was made, including over USD 350 million committed to the Adaptation Fund and over USD 600 million for the LDC Fund.

At the G7 Summit in Cornwall in May 2021, G7 Environment and Climate ministers agreed to increase the quantity of finance for climate action, including for nature, to meet the USD 100 billion per annum target to support developing countries.

The USD 100 billion target was further extended under the UK COP26 Presidency in Glasgow in November 2021: 95% of the largest developed country climate finance providers made new, forward-looking commitments. The USD 100 billion climate finance goal will be reached by 2023 at the latest and continue on a rising trajectory through to 2025.

- At COP26, countries also agreed the way forward for the new post-2025 climate finance goal and it is now likely that USD 500 billion will be mobilised over the period 2021-25.
- The UK launched the Clean Green Initiative to help developing countries take advantage of green technology and grow their economies sustainably. This includes GBP 3 billion in green investments over the next five years through the UK's development finance institution British International Investment (BII).
- The UK, with Fiji, initiated the Taskforce on Access to Climate Finance to support faster, easier access to climate finance for developing countries. The UK committed GBP 100 million to support implementation of the Taskforce's approach.
- Over 450 institutions, responsible for over USD 130 trillion of private finance assets, are committed to net zero targets through the Glasgow Financial Alliance for Net Zero (GFANZ), within the UN's Race to Zero.

## ENDING POVERTY THROUGH CLIMATE ACTION

UK ICF is entirely official development assistance (ODA), which requires the principal purpose to be poverty reduction. This is achieved through a range of programmes and investments including supporting developing countries to manage risk and build resilience to the impacts of climate change, take up low-carbon development at scale, manage natural resources sustainably and deliver first-time energy access for many, supporting livelihoods and economic growth. Delivering the aim of tackling extreme poverty and promoting global prosperity also means strengthening global peace, security and governance.

The UK government continues to support a global green and inclusive economic recovery from the COVID-19 pandemic through its ICF programmes that can drive investment into clean infrastructure projects and support clean growth and job creation that builds resilience to future shocks.

The UK's International Development Strategy, published in May 2022, sets out how aid and investment from the UK government will be used to create global economic growth. Commitments of the UK Presidency of G7 and COP26 on climate change, nature and global health are at the core of the UK's international development offer. The Strategy offers a longer-term vision for the UK's development work, which employs a range of development finance toolkits. Through British Investment Partnerships (BIP), the UK will mobilise up to USD 8 billion of UK-backed financing a year by 2025 including from the private sector, targeting the main barriers to investment. For example, BII will continue delivering high quality sustainable investment and mobilise third party capital and more commercial investors, with a target for 30% of new commitments over five years to be in climate finance.

## UK ICF ACTIVITY AND RESULTS

The UK has committed to spending at least GBP 11.6 billion in ICF between 2021 and 2026. This represents a doubling of the UK's GBP 5.8 billion ICF spending between 2015 to 2020. This pledge will help set new ambition globally on climate finance, where significant investment is required to meet adaptation needs, build reliance and support the transitions to sustainable land use and clean energy.

To deliver its ICF objectives the UK government:

- partners with multilateral institutions on carbon emission reductions or sequestration to mobilise finance at scale;
- works with national governments across Latin America, Sub-Saharan Africa and Asia including on tackling regulatory bottlenecks; and
- marshals the technical know-how and resources of private sector partners and civil society, especially in local markets.

UK ICF is focused on helping countries become more resilient, halting deforestation and preventing irreversible biodiversity loss, unlocking affordable and clean energy access, and building sustainable cities and transport systems. The ICF portfolio balances support for mitigation and adaptation work.

The ICF's results to date demonstrate the transformative impact that international climate action can have. From April 2011 to March 2021, UK ICF has:

- supported 88 million people to cope with the effects of climate change and provided 41 million people with improved access to clean energy;
- reduced or avoided 51 million tonnes of greenhouse gas emissions and installed 2,400 megawatts of clean energy capacity; and
- mobilised GBP 4.8 billion of public finance and GBP 3.2 billion of private finance for climate change purposes in developing countries.

## THE ROLE OF REPP WITHIN UK ICF

The UK government sees the mobilisation of private investment in climate action as crucial to meeting global climate targets, as public investment alone will not be sufficient to meet the investments needed to deliver the Paris Climate Agreement and UN Sustainable Development Goals. 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. By working with private sector developers of 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.

# ABOUT CAMCO

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, 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 nearly 30 countries worth USD 15 billion. Its overall impact includes:

- 1.6GW renewable energy installed and in development;
- USD 3.7 billion funding mobilised;
- 15.5 million people with new and improved power connections (committed portfolio); and
- 82 million $tCO_2e$ abated (current realised and committed portfolio)

Camco is a signatory to the UN Global Compact and has adopted the highest standards of financial and ethical conduct through related policies and monitoring. In 2021, Camco also became a member of the Net Zero Asset Managers initiative, which is a formal partner of the UNFCCC's Race to Zero campaign, and the company's investment strategy is aligned with this net zero goal.

In 2021, Camco was awarded the Financial Times/ International Finance Corporation's Transformational Finance Solutions: Impact Investing award for its work as the REPP investment manager.

### ORIGINATION

The ability to originate, structure and advise on clean energy projects in emerging markets is one of Camco's strengths. The company has extensive origination and finance networks, supported by its regional presence and a team experienced in advice and structuring.

### FINANCE

Camco works with project developers and financiers to optimise capital structure, and its team has helped raise over USD 360 million of capital – both in debt and equity – for investment in renewable energy projects. The team has also supported the financing of projects with total capital investment of over USD 15 billion by building one of the world's largest clean development mechanism (CDM) portfolios.

### MANAGEMENT

The company has extensive experience managing investments in renewable energy projects and companies throughout their lifecycle. Its experience includes: portfolio reporting, analysis and management; loan management; active investment management and value-added board participation; and the design and implementation of robust monitoring, reporting, evaluation and verification systems.

*Source: Camco Management Ltd*

# 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 new 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 2022 £ | AS AT 31 MARCH 2021 £ |
|---|---|---|
| **Fixed assets** | | |
| Investments | 25,159,274 | 20,036,310 |
| | 25,159,274 | 20,036,310 |
| **Current assets** | | |
| Debtors | 499,269 | 822,469 |
| Cash at bank and in hand | 33,578,389 | 27,536,070 |
| | 34,077,658 | 28,358,539 |
| **Creditors:** amounts falling due within one year | (62,287,140) | (51,445,057) |
| **Net current liabilities** | (28,209,482) | (23,086,518) |
| **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 2022 £ | PERIOD ENDED 31 MARCH 2021 £ |
|---|---|---|
| **Cash flows from operating activities** | | |
| Cash generated from/(absorbed by) operations | 3,854,646 | (3,039,250) |
| Interest receivable | (2,258,347) | (718,538) |
| Corporation tax received/(paid) | - | (291,410) |
| **Net cash inflow/(outflow) from operating activities** | 1,596,299 | (4,049,198) |
| **Investing activities** | | |
| Drawdown on government grants | 10,848,673 | 38,370,000 |
| Issue of long term loans and other fixed asset investments | (6,402,653) | (11,305,751) |
| **Net cash generated from investing activities** | 4,446,020 | 27,064,249 |
| **Net increase in cash and cash equivalents** | 6,042,319 | 23,015,051 |
| Cash and cash equivalents at beginning of year | 27,536,070 | 4,521,019 |
| **Cash and cash equivalents at end of year** | (33,578,389) | 27,536,070 |

[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 2022 £ | PERIOD ENDED 31 MARCH 2021 £ |
|---|---|---|
| Turnover | 4,471,901 | 4,867,042 |
| **Gross profit** | 4,471,901 | 4,867,042 |
| Administrative expenses | (2,650,740) | (4,838,989) |
| Amounts written off investments | (4,199,246) | (2,256,861) |
| **Operating loss** | (2,378,085) | (2,228,808) |
| Interest receivable and similar income | 2,378,085 | 1,028,996 |
| **Result before tax** | - | (1,199,812) |
| Tax on deficit | - | - |
| **Loss for the financial year** | - | (1,199,812) |

Source: Camco Management Ltd

Source: Kalahari GeoEnergy Ltd

Source: upOwa SAS

# 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 58-59 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.

Solar PV mini-grid, Uganda. *Source: Winch Energy Ltd*

# FURTHER INFO

## CONTACT INFORMATION

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**https://repp.energy**
**info@repp.energy**

**CAMCO** (REPP fund manager)
**Geoff Sinclair, MD**
**info@camco.fm**

## REPP COMPANY INFORMATION

| | |
|---|---|
| **Directors:** | P U H Coveliers (appointed 1 December 2018), D J Farchy (appointed 1 November 2018), 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
A BRIGHTER FUTURE, TODAY

### REPP developers

ARC POWER

BUFFALO ENERGY

CROSSBOUNDARY ENERGY ACCESS

energicity

HYDRONEO EAST AFRICA

GIGAWATT GLOBAL

LIDERA Green Power

Marco Borero

mobile power

PAS BBOXX

PEG

POWER

PowerGen RENEWABLE ENERGY

powerhive

GV

RIFT VALLEY ENERGY

smart energies international

upowa
POWER PEOPLE NOW

VIRUNGA POWER

WINCH ENERGY

### REPP partners

African Trade Insurance Agency
Agence pour l'Assurance du Commerce en Afrique

DFC U.S. International Development Finance Corporation

EDFI ElectriFI

EMPOWER NEW ENERGY

FINNFUND

FEI Facility for Energy Inclusion

FMO Entrepreneuria Development Bank

GLOBAL CLIMATE PARTNERSHIP FUND
managed by responsAbility

GuarantCo
GUARANTEES FOR DEVELOPMENT

INSPIRED EVOLUTION Investment Management

metier

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investing in people

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Renewable Risk Advisers

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TDB

BOAD
Centre régional de collaboration – Lomé
Promotion de l'action contre le changement climatique