REPP

Renewable Energy Performance Platform

REPP REPORT AND FINANCIAL STATEMENTS

2016-2018

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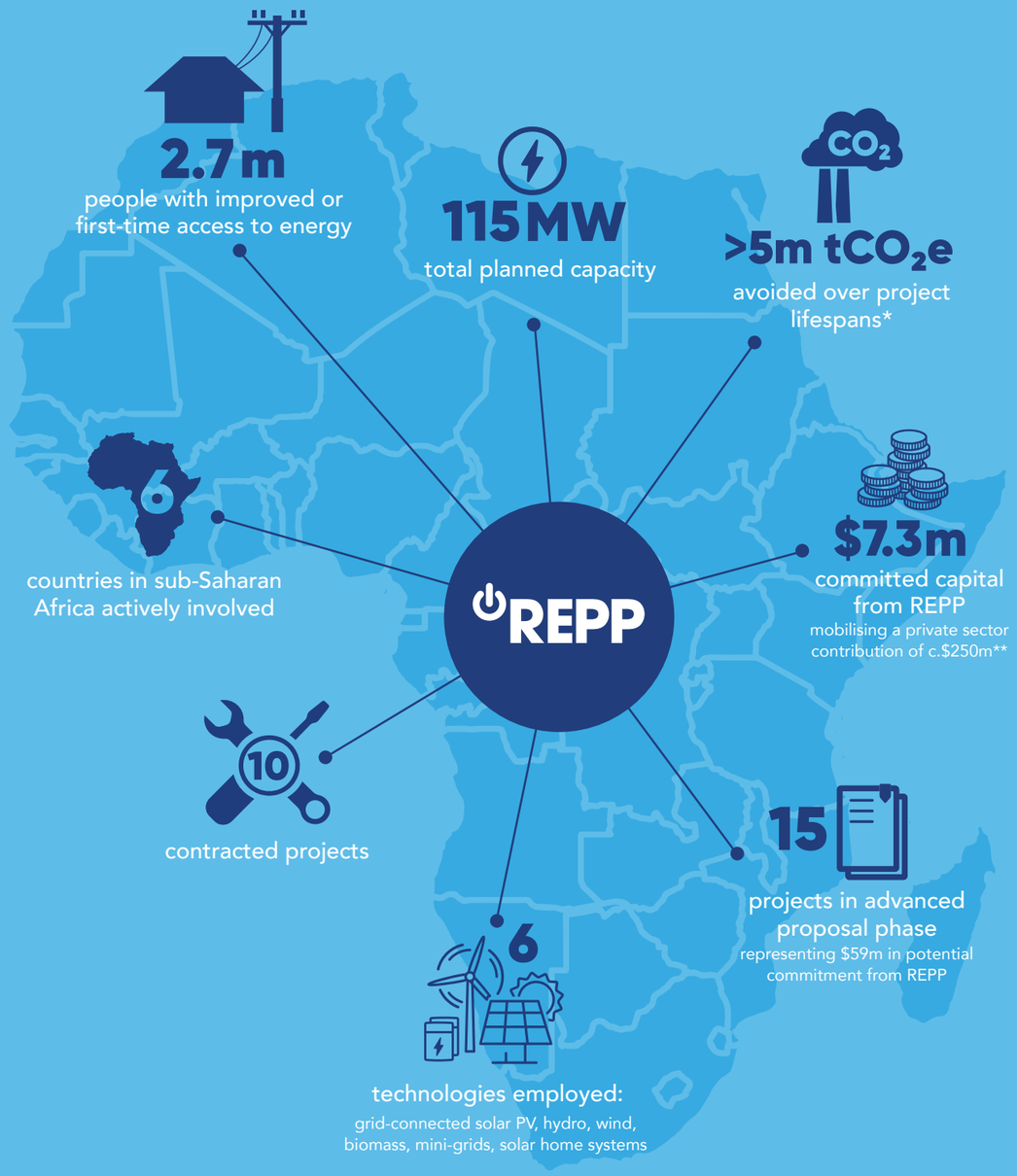
REPP HIGHLIGHTS BY NUMBERS

(as of 31 March 2018)



* Assuming average project life of 25 years
** Includes capital mobilised, and projected to be mobilised, for project development and construction financing

WELCOME

In September 2015, the 193 member countries of the UN General Assembly adopted 17 Sustainable Development Goals (SDGs) in New York - the seventh of which aims at realising universal access to modern energy services.

Two months later world leaders gathered at COP21 to thrash out the Paris Climate Agreement, the single most important step yet towards keeping global warming within "acceptable" limits.

These two landmark deals were testimony to a world waking up to its social and environmental responsibilities. A core element of both agreements was the realisation of the need to work with, and via, the private sector to deliver the significant scaling up of investments in sustainable development projects.

December 2015 was also the month that the Renewable Energy Performance Platform (REPP) was formally incorporated, with a clear mission to catalyse the growth of sub-Saharan Africa's renewable energy industry.

Created in direct response to the UN's Sustainable Energy for All (SE4All) initiative by UN Environment and the European Investment Bank (EIB), REPP speaks loudly in the spirit of both the SDGs and COP21. It has a five-year mandate to increase African electricity generating capacity by 150MW, avoid 5.7m tonnes of greenhouse gas emissions (tCO_2e) over 25 years and provide first-time or improved access to energy to 2m people.

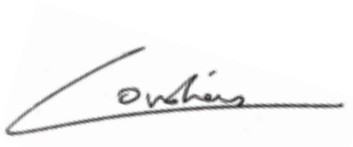
This report is the first public review of REPP's progress so far – and, as you will soon discover, it's been a maelstrom of activity since the start. Over $7.3m has been committed to date across six countries - employing technologies as diverse as solar home systems (SHS) to utility-scale run-of-river hydropower plants - and we are expecting a substantial amount more to be committed over the next few months.

Africa has an abundance of natural resources - an infinite supply ready and waiting to fuel a continental energy revolution. But progress is desperately slow, and with the exception of South Africa, countries in the sub-Saharan region are falling increasingly far behind the rest of the world when it comes to investment in renewable energy.

This is particularly the case for small and medium-sized projects, which in other regions have been the starting point for industry roll-out. Despite the boundless potential, far too few renewable energy projects are reaching fruition - largely because developers are unable to secure the finance and expertise needed to bring their viable ideas to life.

With £48m in initial funding from the UK's Department for Business, Energy and Industrial Strategy (BEIS), and sector-leading expertise from fund manager Camco Clean Energy (Camco), REPP is perfectly placed to make a difference.

REPP Management Board



Peter Coveliers

Leila Pourarkin

Eric Usher

A WORD FROM THE FUNDER

Climate change is one of the most urgent and pressing challenges we face today. Tackling it requires both serious ambition and serious action, but alongside the challenge comes a tremendous opportunity as the world pivots to a low-carbon economy.

The UK has been at the forefront of this low-carbon transition. Since 1990, the UK's economy has grown by two thirds, while carbon emissions have fallen by over 40% - better progress than any other G7 economy. This has been enabled by our domestic expertise in low-carbon technologies, and the levels of green finance available in the UK to drive the transition. It has also been supported by an ambitious innovation and policy framework, and strong professional and financial services industries.

However, success in the UK alone is not enough: climate change is a global problem and will require a global solution. This is why the UK has committed to spend at least £5.8bn in international climate finance to encourage ambitious action from other governments, the private sector and communities in our efforts to combat climate change.

We need to use this resource to help unlock flows of private finance – and to nudge the trillions that will be spent on infrastructure towards low-carbon and sustainable choices. There is more information on how the government's International Climate Finance (ICF) initiative works on pages 32-33.

The UK's ICF decided to fund REPP in 2015 because we see it as an innovative, flexible programme that directly addresses the challenges faced by private sector project developers in sub-Saharan Africa. This report shows you how REPP is working on the ground to help those projects overcome those challenges.

I hope you enjoy this progress report of REPP and are as inspired by the case studies as I am.

The Rt Hon Claire Perry MP
Minister of State for Energy and Clean Growth
BEIS

Department for Business, Energy & Industrial Strategy

UKaid from the British people

ABOUT REPP

The Renewable Energy Performance Platform was set up in 2015 to stimulate the growth of the small-scale and distributed renewable energy sector in sub-Saharan Africa by helping developers overcome barriers to finance.

It achieves this by mobilising private sector development activity and investment in small to medium-sized projects (typically up to 25MW).

REPP is managed by Camco, a leader in renewable energy finance, which provides developers with access to various financing products, services and experience.

To date, REPP has committed $7.3m in co-financing for the development of 10 active projects covering a wide range of technologies, from SHS to grid-connected solar farms and run-of-river hydropower plants. Projects in the advanced phases of the proposal stage amount to a potential funding commitment of around $59m, while projects in the advanced pipeline amount to nearly $62m.

The original concept for REPP was developed by UN Environment and the EIB in response to the UN's SE4All initiative, which seeks to ensure universal access to modern energy services and double the share of renewable energy in the global energy mix. The implementation of REPP was made possible thanks to £48m ($67m) international climate funding from BEIS.

WHY REPP?

Africa is in the midst of an energy crisis. Today, it is the only continent where both the number of people without access to electricity and the number of people living in extreme poverty are rising. In many African countries, less than 25% of households have any form of electrical connection, and in some rural areas that figure is less than 5%.

Centralised grid systems very often lack the infrastructure to provide access to remote regions, or cannot provide enough capacity to meet demand - leading to regular blackouts. Large power plants face significant barriers in their development, not least the stress that they place on government balance sheets and difficulties integrating with weak grids.

Unfulfilled demand is often met with diesel, kerosene and other expensive and polluting energy alternatives.

UNTAPPED POTENTIAL

By comparison, decentralised renewable energy sources offer a wealth of benefits that make them attractive propositions for Africa's underserved rural communities. For example, they:

- remove or reduce reliance on the national grid;
- are easier and far cheaper to install in remote locations than rolling out the grid;
- employ clean technology, supporting national climate action targets and improving air quality at a local level;
- provide a reliable supply of quality electricity; and,
- are increasingly affordable due to the falling cost of renewables technology globally.

Africa also has an abundance of available natural resources, making it perfectly placed for scaling-up renewables on a continental scale.

At face value, it would seem renewables have a fundamental role in turning the tide on Africa's energy predicament.

BARRIERS TO ENTRY

Even though the environmental, social and long-term economic cases for renewable energy stack up, investment in renewable energy projects in sub-Saharan Africa is lagging far behind most of the world.

This is in part because a lot of developers simply do not have the start-up capital to clear the first hurdles on the route to financial close; some also lack the expertise or capabilities that developers of large projects possess. Additionally, the development and construction phases of renewable energy projects are considerably riskier than the operational phase when the projects start to generate energy and income. For most investors that do get to hear about project ideas, the front-end risks - both real and perceived - are too great a disincentive for investment.

Funding opportunities are typically limited to all but the biggest and most bankable projects, which are often unsuitable because they are difficult to develop and regularly too big for their country's centralised grids - and the government's funds - to cope with.

As a result, many viable ideas for small-scale projects are going unrealised and Africa is missing out on a potentially transformative opportunity.

HOW CAN REPP HELP?

REPP assists developers throughout the project development lifecycle all the way to construction, providing a broad range of financing products, services and support tailored to suit each developer's unique set of circumstances and needs.

DEVELOPMENT PHASE CAPITAL AND SUPPORT

Including loans for selected third party development expenses (such as feasibility studies, grid studies, environmental and social impact assessments, legal advice etc.) and general project guidance and support.

ACCESS TO RISK MITIGATION INSTRUMENTS

Provided by REPP partners with REPP's assistance and coordination, with a focus on risks that cannot be cost-effectively managed by the private sector - in particular, political, regulatory and offtaker risk, as well as currency risks. REPP also works to reduce risk in the long-term, including by demonstrating that regulatory stability can attract more investment and produce greater social benefits, and by collaboration with governments on regulatory improvement.

ACCESS TO LONG-TERM LENDING

The REPP team uses its wealth of experience and contacts in renewable energy finance across Africa to help projects to structure their funding in the right way, and to secure finance from REPP partners and other financial institutions - both private and public. REPP also encourages debt and risk mitigation instrument providers to coordinate their approval and due diligence requirements to simplify the process for developers.

GAP FINANCING

Helping to bring projects to financial close using a range of financing structures, including bridge financing, construction loans, equity and equity conversion options, results-based financing, results-based loans for mini-grid rollout, subordinated debt, trade finance for SHS, and working capital loans.

"REPP has provided the venture with a flexible and innovative financing structure, which permits us to scale up the business faster than would be possible with traditional instruments. We look forward to expanding our collaboration and developing a financially viable business model for this massive customer case."

Kristoffer Laurson, CFO, Pan Africa Solar

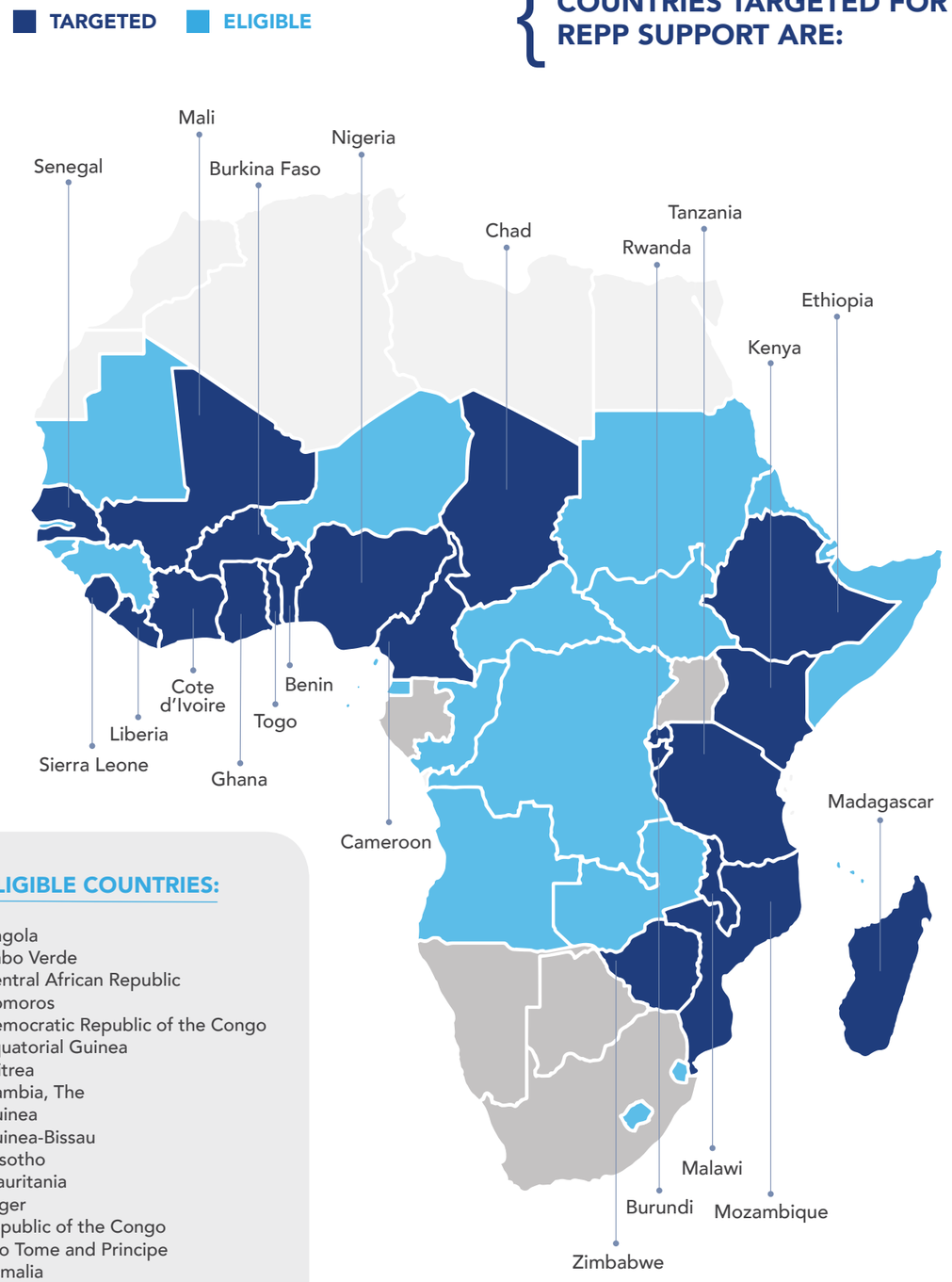
ELIGIBILITY

REPP supports small and medium-sized private sector renewable energy projects in sub-Saharan Africa. Most projects are typically between **1MW and 25MW** (but can be up to 50MW for wind), and include both on-grid and off-grid projects, and sometimes both.

TECHNOLOGIES SUPPORTED:

- **GRID-CONNECTED SOLAR PV**
- **RUN-OF-RIVER HYDROPOWER**
- **OFF-GRID SOLAR PV** (Mini-grid and SHS)
- **WIND**
- **GEOTHERMAL**
- **BIOMASS**
- **BIOGAS**
- **WASTE-TO-ENERGY**

COUNTRIES TARGETED FOR REPP SUPPORT ARE:



ELIGIBLE COUNTRIES:

Angola
Cabo Verde
Central African Republic
Comoros
Democratic Republic of the Congo
Equatorial Guinea
Eritrea
Gambia, The
Guinea
Guinea-Bissau
Lesotho
Mauritania
Niger
Republic of the Congo
Sao Tome and Principe
Somalia
South Sudan
Sudan
Swaziland
Zambia

THE PROCESS: HOW REPP SELECTS AND SUPPORTS PROJECTS

ORIGINATION & ELIGIBILITY

The REPP manager discusses project proposal with developer and an eligibility assessment is performed, potentially leading to a signed engagement letter.

PROPOSAL

REPP project teams decide whether to progress application to REPP's Investment Committee (IC) via a concept memo. If it does, a full proposal document is prepared and presented for a Q&A session.

TERM SHEET

If IC recommends progression, a draft term sheet is agreed with the developer and presented with a full structure memo to the IC.

FINANCING AGREEMENT

KYC and due diligence is started, and a draft financing agreement is prepared and agreed alongside a set of condition precedents. If the draft gets passed by the IC, it goes to the Management Board for final decision. Once condition precedents are met, the funds are disbursed as per the agreed milestones.

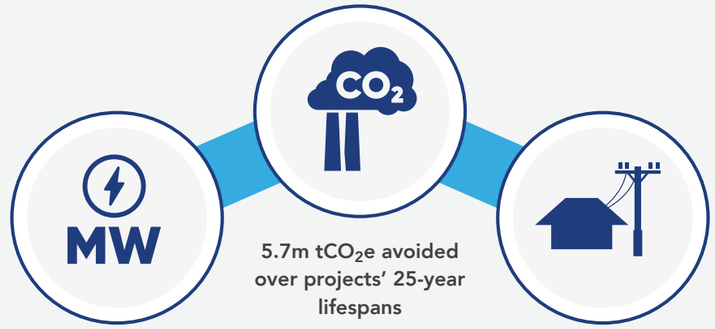
ONGOING SUPPORT AND MONITORING

The REPP project team provides ongoing support on an as-needed basis and collects information for monitoring and evaluation purposes.

OBJECTIVES

DESIGNED TO MAKE A TANGIBLE DIFFERENCE

THE FIVE-YEAR AIMS:



150MW of new renewable energy capacity installed

5.7m tCO_2e avoided over projects' 25-year lifespans

2m people get improved or first-time access to energy
(see definition on page 39)

TRANSFORMATIONAL GOALS:

Increased capacity as a result of development of smaller projects

Established a wide range of viable and effective financing models

Simplified access to long-term debt and risk mitigation instruments

SUMMARY OF ACTIVITY

OVERVIEW OF PROJECT PORTFOLIO

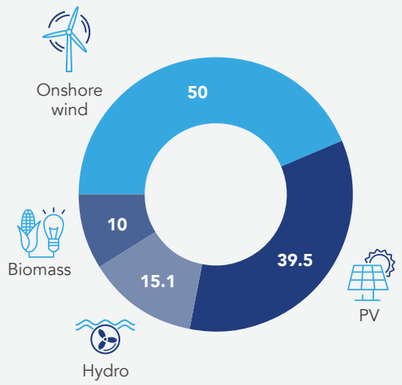
As of March 31, 2018:

- There are **10 active projects** financed and supported by REPP, with a further 15 at the proposal, term sheet and financing agreement stage in the selection process, and 21 at an advanced stage in the pipeline (see pages 28-29).
- A total of $7.3m has so far been pledged by REPP, with the potential for a further $59m to be committed across the 15 projects currently in the advanced selection process.
- 1,931 jobs will be created during the construction phases of the active projects and a further 193 during the operations and maintenance phases.
- **Onshore wind** will generate the most capacity (50MW - or 43.5% of the total), while grid and off-grid **solar PV** is the most prevalent technology (6 out of 10 projects).
- Of the active projects, three are in **Tanzania**, two are in **Ghana**, another two in **Nigeria**, and one each in **Burundi, Cameroon and Kenya**.

Below is a snapshot of REPP's core activities and accomplishments to date.

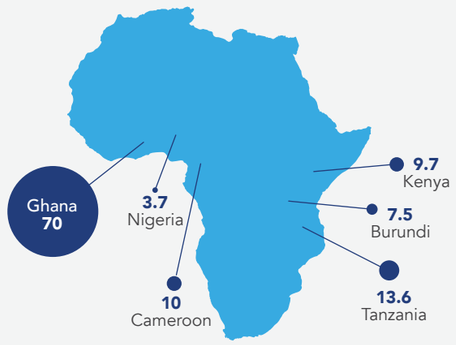
CAPACITY BY TECH

In MW



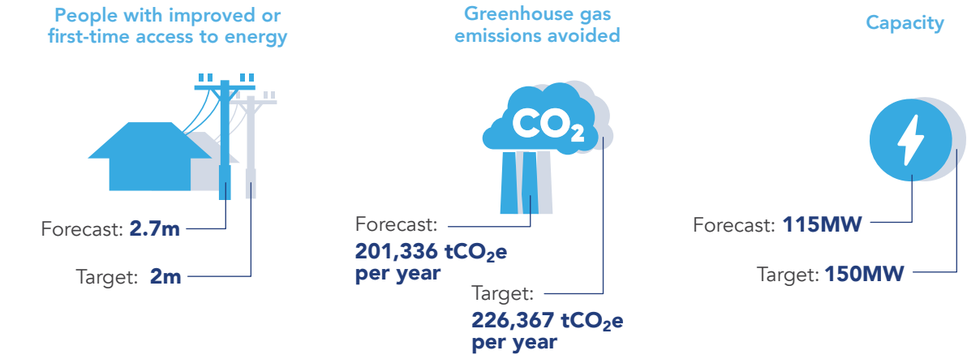
CAPACITY BY COUNTRY

In MW



COMMITTED SPEND BY FINANCIAL STRUCTURE

PERFORMANCE AGAINST CORE KPIS FOR CONTRACTED PROJECTS



PROJECT CASE STUDIES

GAIA ENERGY GHANA

Location
Ankoma and Agogo,
Ghana

PROJECT SUMMARY

The Gaia Energy project* in Ghana will involve the construction of two grid-connected onshore wind farms, and is the largest project that REPP has been involved with to date.

Once built, the two wind farms in Ankoma and Agogo will be among the biggest wind developments ever completed in the West African country, and will help establish a viable business model that will pave the way for scaling up investment in its nascent wind industry.

Getting the project to financial close will upskill and improve the institutional knowledge of the associated stakeholders (i.e. the African project developers, commercial finance institutions and providers of risk mitigation instruments), and should motivate other developers to overcome barriers to seize similar opportunities in the region.

The project is being developed by Gaia Energy, an independent large-scale renewable energy developer in the Middle East and African region, with a presence in 10 African countries. REPP is supporting with financing for an interconnection study, ESIA, road survey, topographical study, geotech and legal counsel - with a total funding amount of $900,000.

Once up and running, the farms' combined output will be a significant boost towards Ghana meeting its national developmental target of 10% renewables by 2020.

* REPP support for this project is subject to conditions precedent being met.

AT A GLANCE

Technology
Onshore wind

Project type
Grid-connected

Offtaker
Electricity Company of Ghana (ECG)

KPIs

Greenhouse gas emissions avoided: 74,000 tCO_2e per year

People with improved energy access: 876,000

Jobs created:
100 during construction,
20 during operation

MW Installed capacity:
50-100MW

FUNDING STRUCTURE

Contracted date
9 November 2017

Lending type
Development capital

REPP funding
USD $900,000

"[Gaia Energy Ghana] is the right project in the right community at the right time as Ghana battles with energy crises. I pray to Almighty God and the ancestors that all wind in Ghana will blow through Agogo so as to get good results during the wind resource study."

Nana Kwame Akuako Sarpong, Paramount Chief of Agogo Traditional Area

GVE NIGERIA

Location
Nigeria

PROJECT SUMMARY

The Green Village Electricity (GVE) project is a rural electrification scheme designed to provide clean and reliable energy to off-grid rural communities in Nigeria based on a Pay-As-You-Go (PAYG) revenue collection system.

Developed by GVE Projects Ltd, the plan is to construct an isolated mini electricity distribution grid in 72 villages across seven states in Nigeria, each with an installed capacity of between 24kW to 500kW, depending on the size of the community.

The developer has 12 operational sites to date, with a total installed capacity of 500kWp, but over the course of the project plans to scale this up to 17.8MW, providing energy access to up to 144,000 people.

REPP is providing funding and access to long-term debt to help build the project into a sustainable business that can attract funding from private sector financial markets, while at the same time contributing towards its own objective of transforming the energy sectors in target countries.

Proving the business model and viability of the project is expected to then attract international investors interested in developing the small-scale renewable energy sector in Nigeria.

Mini-grids offer multiple benefits for Nigeria's rural communities, where access to electricity is sometimes as low as 5% of households. The GVE pilot projects, for example, reported a 40% reduction in energy-related expenditure for their customers, while also increasing productivity, particularly for agro-processing facilities.

AT A GLANCE

Technology
Mini-grids

Project type
Off-grid

Offtaker
Off-grid communities

KPIs

Greenhouse gas emissions avoided: 24,300 tCO_2e per year

People with first-time energy access: 144,000

Jobs created:
2,592 during construction,
432 during operation

MW Installed capacity:
2.7MW

FUNDING STRUCTURE

Contracted date
29 December 2016

Lending type
Development capital

REPP funding
USD $288,000

"The GVE solar mini-grid project has revolutionised our community. From our children being able to study at night, which has led to significantly boosted academic performance, to improved health care access and an influx of economic activities, everything we are witnessing is thanks to having the very reliable electricity supply that the mini-grid provides."

Alhaji Abdullahi Hassan, a ruling council member of Bisanti community, Niger state, Nigeria

KILOSA

Location
Kilosa District,
Tanzania

PROJECT SUMMARY

Providing first-time energy access to 6,000 people in one of Tanzania's most underserved regions will be just one of the Kilosa project's major benefits.

Currently around three in four households in the central-eastern Morogoro Region, which includes the Kilosa District, is not connected to electricity in any form. Now, project developers Ruaha Energy and Cronimet are planning to build six 1MW solar PV grid-connected power plants spread out across the 15,000km2 district.

Once built, the small utility-scale facilities will deliver much-needed additional power to the local grid, which frequently suffers from outages and power fluctuations, and provide improved energy access to more than 70,000 people.

The construction phase of the project will create employment opportunities for villagers and improve the local infrastructure, including upgraded roads and a better electricity supply to the local hospitals and school.

During operation, between 1.5-5% of project revenues will contribute directly towards a community fund, managed by the villagers. At the same time villagers involved in the construction and operation of the power plant will be upskilled in areas such as solar PV sales and invoicing, construction and maintenance, increasing their future job prospects.

The Kilosa project is part of Ruaha Energy's vision of providing power to one million customers, one village at a time, and was signed under a new small PPA in Tanzania, paving the way for private sector investment.

When complete, the power plants will be a major contribution towards the company's ambition to build a portfolio of standalone solar PV and hybrid biomass/solar PV projects, with a combined generation capacity of 40MW.

AT A GLANCE

Technology
Solar PV

Project type
Grid-connected,
6 x 1.2MW plants

Offtaker
TANESCO

KPIs

Greenhouse gas emissions avoided: 5,828 tCO_2e per year

People with improved or first-time energy access: 76,600

Jobs created:
50 during construction,
25 during operation

MW Installed capacity:
7.2MW

FUNDING STRUCTURE

Contracted date
2 November 2017

Lending type
Development capital

REPP funding
USD $455,000

"By improving the availability and quality of the electricity supply, the Kilosa project will activate many other local initiatives which have been dormant due to lack of power, and help improve social services for thousands of people in the region."

Arnold Mzigo, Kilosa District Land Officer

PAS BBOXX NIGERIA

PROJECT SUMMARY

Tens of thousands of schoolchildren will be able to study at night for the first time thanks to a REPP-supported SHS venture which is set to deliver safety and comfort to isolated rural communities in northern Nigeria.

UK-based developer, Pan Africa Solar, plans to install more than 100,000 self-contained off-grid systems over three years, nearly a quarter of which will be installed with the support of REPP loans. The systems use technology developed by another UK firm, BBOXX, and will provide LED lighting and power for a range of electrical appliances.

Until now, most of the low-income families and micro-businesses set to benefit from the initiative have had to rely on expensive and polluting kerosene lamps and drycell torches for home lighting - or simply gone without.

But with the 50Wp solar PV panel and 17Ah battery installed with every Pan Africa Solar system, whole communities are now getting access to clean, reliable and affordable electricity. Customers simply have to hook up their LED lights (included in the basic package) and other devices to the plug-and-play power unit to receive immediate access to on-demand energy. The basic package can be upgraded with simple accessories including a radio, rechargeable torches and hair clippers, while TVs are available through the most expensive packages.

Pan Africa Solar's CEO, Marcus Heal, said the company is extremely pleased with the early successes that have been achieved through rolling out the British technology in a challenging environment.

"The benefit that our customers will gain from the service is transformational and we are proud to be building this business with the support of REPP," he added.

With the support of a $2.2m REPP loan, the units are initially being installed in customers' homes and businesses - including bakers, barbers and millers in the Kano regions in the north-west and central areas of Nigeria.

To date, REPP has helped finance an initial purchase of 2,600 systems, which will enable over 30,000 people to receive emission-free power. Further support is being provided in the form of technical assistance, structuring support and results-based finance over the course of the project's development phase.

Kristoffer Laurson, CFO of Pan Africa Solar, said: "REPP has provided our venture with a flexible and innovative financing structure, which permits us to scale up the business faster than would be possible with traditional instruments.

"We look forward to expanding our collaboration and developing a financially viable business model for this massive customer base."

The project is also expected to provide several hundred permanent local jobs thanks to the service business model, whereby the installation is maintained as long as the customers pay the affordable monthly rental payment.

SHS Nigeria underlines the important role standalone SHS have in providing a cost-effective power supply for lighting and appliances to remote, off-grid households, and demonstrates the financial viability of such initiatives to other developers and investors.

LOCATION

Nigeria's northern and Kano regions

AT A GLANCE

Technology
Solar home systems

Project type
SHS service

Offtaker
End-user households and micro-enterprises

"Since I installed PAS BBOXX in my bakery I have noticed I make more profit because I spend less on energy and have more time for production."

Annur, baker

"I would have to travel miles to charge my phone three times a week but now I charge my family phones in the comfort of my house."

Kamel Mohammed, homeowner

KPIs

Greenhouse gas emissions avoided: 3,420 tCO_2e per year

People with first-time energy access: 114,000

Jobs created: 300 during operation

MW Installed capacity: 1MWp

FUNDING STRUCTURE

Contracted date: 20 October 2017

Lending type: Development capital, trade finance, asset and cash flow portfolio loan

REPP funding: USD $2,220,000

KITEWAKA

Location
Tanzania

PROJECT SUMMARY

A plan to build a 5.39MW run-of-river hydropower plant in a very remote area of Tanzania is expected to enhance economic activity and displace diesel usage.

Under the proposal, more than 90,000 people living in nearby villages in the Njombe and Ruvuma regions - where the current electrification rate is less than 20% - will get access to grid-based electricity for the first time. In addition, nearly a quarter of a million more people will gain access to better, more reliable and clean energy as a result of the project.

The project developer, Ludewa Clean Energy Ltd, is also investigating the construction of a new school, clinic and 18km access road.

The power plant on the Kitewaka River will be the first industrial business in the area. It is expected to provide 73 local jobs during construction, and a further 2 full-time and 10 part-time jobs during operation.

Although other small-scale hydro projects are currently in operation in Tanzania, they each received significant donor support, indicating that small-scale hydropower development is still commercially challenging in remote rural areas.

REPP support will be key in helping the developers overcome elevated risks and higher costs compared to projects that are closer to main population centres.

AT A GLANCE

Technology
Run-of-river hydro

Project type
Greenfield, grid-connected

Offtaker
TANESCO (national utility)

KPIs

Greenhouse gas emissions avoided: 16,000 tCO_2e per year

People with improved or first-time energy access: 334,187

Jobs created: 73 during construction, 2 full-time and 10 part-time during operation

Installed capacity: 5.39MW

FUNDING STRUCTURE

Contracted date
12 July 2016

Lending type
Development capital

REPP funding
USD $345,000

"REPP's financial and technical support for the Kitewaka project has been critical in overcoming hurdles in the project's development and advancing it toward the implementation phase, when it will bring tremendous benefits to the local communities."

Amini Kimaro, CEO, Ludewa Clean Energy Ltd

MUBUGA

Location
Burundi

PROJECT SUMMARY

This ambitious utility-scale project in Burundi centres round the construction of a 7.5MW solar PV power plant that is expected to increase the country's baseload generation capacity by 15%.

The development in Mubuga, in the Gitega Province, will also be the first grid-connected solar project by an IPP in Burundi, and will be the first renewable energy project to design a bankable PPA and Concession Agreement, paving the way for other renewable energy projects in the country.

Project developers Gigawatt Global Burundi SA estimate that the plant will be able to supply the electricity needs of around 87,600 people and businesses, and provide 300 part-time jobs during construction and up to 50 full-time jobs during the operational phase for cleaning, security and general maintenance.

The developers also plan to construct a scalable mini-grid scheme alongside the grid-based project for the local community, and will provide yearly support to the community to improve economic potential and living standards.

REPP is providing a development funding and construction financing, which will enhance the overall economics of the project and allow for improved access to long-term financing from debt providers and equity investors.

This project has a strong demonstration effect, especially in terms of building capacity within government to negotiate and secure PPAs with IPPs. It is expected the project will strengthen political buy-in and support for small-medium scale renewable energy projects in Burundi.

AT A GLANCE

Technology
Solar PV

Project type
Greenfield, grid-connected

Offtaker
Régie de Production et de Distribution D'eau et D'electricite (REGIDESO)

KPIs

Greenhouse gas emissions avoided: 1,792 tCO_2e per year

People with improved energy access: 87,600

Jobs created: 300 during construction (part time), up to 50 during operation

Installed capacity: 7.5MW

FUNDING STRUCTURE

Contracted date
7 December 2016

Lending type
Development capital

REPP funding
Undisclosed

"The scale of impact the Mubuga project will have on ordinary people's lives and businesses cannot be overestimated, and in the process will mark the dawn of a new era for renewable energy in Burundi. REPP's support has made this possible. The project will be the model that will be followed by other foreign investors and will raise the image of Burundi for long-term investment by international financiers."

Honourable Jean Jacques Nyenimigabu, senior adviser to the president and former MP from Mubuga

POWERGEN TANZANIA

Location
Tanzania

PROJECT SUMMARY

This project is being developed by PowerGen, which builds, owns and operates micro-grids in Tanzania and Kenya. Today, PowerGen manages over 3,500 customers across Tanzania and Kenya and plans to scale this up to over 100,000 customers within the next five years.

Customers will be able to pre-pay on a PAYG basis for clean, round-the-clock AC power using their mobile phones under plans to build hundreds of micro-grids in Tanzania using modular micro-grid systems.

The technology is based on a centralised solar PV-battery hybrid system with a distribution grid connecting households in the same village. The system is scalable and low emission, which makes it well-placed to be an integral part of the Kenyan and Tanzanian grids.

The developer aims to finance the first cohort of mini-grid installations themselves, expecting to provide first-time energy access to between 20,000 and 30,000 people in remote areas of Tanzania by 2023.

REPP support will provide financing for environmental and social impact assessments and improved access to investment from impact investors and donors, developing a commercially sustainable financial and business model for mini-grids across the region.

AT A GLANCE

Technology
Solar mini-grids

Project type
Off-grid

Offtaker
Off-grid rural communities

KPIs

Greenhouse gas emissions avoided: 370 tCO_2e per year

People with first-time energy access: 20,000

Jobs created: 20 during construction, 10 during operation

Installed capacity: 1MW

FUNDING STRUCTURE

Contracted date
31 December 2016

Lending type
Development capital

REPP funding
USD $345,000

"PowerGen is committed to transforming lives by providing access to clean and reliable energy, while simultaneously helping to build the energy system of the future in Africa. With REPP's support we are able to move this important work forward further and faster by overcoming some of the barriers that would otherwise hinder progress."

Aaron Cheng, President, PowerGen

SAKHALA AND MATHIOYA

Location
Kenya

PROJECT SUMMARY

Two proposed run-of-river hydropower plants in rural Kenya will provide a total installed capacity of nearly 10MW, with far-reaching benefits.

Under plans by rural utility developer, Virunga Power, the 6MW Sakhala plant will be built on the Nzoia River in western Kenya, while the 4MW Mathioya plant will be on the Mathioya South River in the central region.

The projects are both being developed under Kenya's Small-Scale Renewable Energy Feed-in-Tariff programme, and once built will be among the country's first - and largest - privately developed grid-connected small hydropower installations.

Community support, as well as co-ownership and long-term benefits to the community (through new electrification to rural households in surrounding areas) are all central to the Nairobi-based developer's business model, and both hydro projects will be developed in collaboration with local community organisations.

The plants are expected to create 30 jobs when operational, and hundreds more during construction. Direct community ownership and governance participation will ensure dividends and other long-term and sustainable socio-economic benefits flow to local rural communities.

Completion of the projects will have a strong demonstration effect within Kenya and across the East African region, not merely in terms of successful grid-connected small hydropower development, but also as a model for developing such projects in partnership with communities.

Virunga Power's approach, which seeks to develop financeable projects with both direct and indirect benefits to local communities, is innovative, sustainable, and also highly replicable.

AT A GLANCE

Technology
Run-of-river hydro

Project type
Greenfield, grid-connected

Offtaker
Kenya Power

KPIs

Greenhouse gas emissions avoided: 23,000 tCO_2e per year

People with improved or first-time energy access: 292,437

Jobs created: 300 during construction, 30 during operation

Installed capacity: 9.7MW

FUNDING STRUCTURE

Contracted date
30 June 2016

Lending type
Development capital

REPP funding
USD $751,000

"With REPP's support, Virunga Power is able to accelerate the development of impactful rural energy projects and expects to deliver long-lasting, highly beneficial, and sustainable infrastructure to our Kenyan community partners."

Brian Kelly, Founder and MD, Virunga Power

SETA CAMEROON

Location
Cities of Ebolowa and Edea, **Cameroon**

PROJECT SUMMARY

Seta Cameroon involves the construction of two 5MW grid-connected biomass power plants in rural Cameroon and is the most recent addition to REPP's portfolio of supported projects in sub-Saharan Africa.*

The power plants are planned for the cities of Ebolowa and Edea in the coastal and southern regions of the West African country. Once built, they will supply baseload power and additional grid stabilisation in a rural area known for its weak grid system, displacing light fuel oil and gas generation.

Combined, the plants will provide more than half a million people with improved access to clean electricity.

The project is also expected to spawn a small, income-generating industry for hundreds of people through the gathering and delivery of wood waste to the plants.

Project developers, Seta Cameroun, chose the regions in order to provide assistance in a geography where the market for renewable energy IPPs remains nascent.

With REPP support, the template for a bankable PPA can be developed and will open up the renewable energy IPP landscape to other developers.

* REPP support for this project is subject to conditions precedent being met

AT A GLANCE

Technology
Biomass

Project type
Greenfield, grid-connected

Offtaker
Eneo (national utility)

KPIs

Greenhouse gas emissions avoided: 11,600 tCO_2e per year

People with improved energy access: 520,000

Jobs created: 400 during construction, 60 during operation

Installed capacity: 10MW

FUNDING STRUCTURE

Contracted date
26 January 2018

Lending type
Development capital

REPP funding
USD $900,000

"Building power grids is essential for Africa's development. Seta Cameroun provides added value by siting our power plants in the rural areas that need them most and where there is abundantly available biomass which otherwise would be wasted - or worse, burnt - polluting the environment to considerable detriment of public health."

Etienne Frank, CEO, Seta Cameroun

TILLI

Location
Tilli, **Ghana**

PROJECT SUMMARY

Up to 150,000 people living in one of Ghana's remotest settlements are set to benefit from improved access to clean energy, thanks to the construction of a 20MW solar PV power plant.

The grid-connected plant in Tilli, an isolated town in the West African country's upper eastern region, will also help to protect the surrounding community from the worst effects of increased load shedding.

Around 150 temporary jobs will be created during the construction period, and a further 15 permanent positions during operation.

Once operational, the power plant will provide a significant contribution towards Ghana's national target of generating 10% renewable energy by 2020. And, by providing energy access in a part of the country where there is currently no utility-scale generation, it will reduce transmission losses and improve the performance of the national grid overall.

The sheer scale and ambition of the project, which is being developed by Windiga IDC Energy Ltd and supported by REPP in the form of a loan to pay for the feasibility study and other developmental costs, is a clear demonstration of how the private sector can overcome perceptions of renewable energy being a risky investment.

Currently, only 0.13% of Ghana's national grid is from renewable energy IPPs. As the project approaches financial close, expected to be in 2019, Tilli is likely to pave the way for further development of utility-scale solar PV projects by other IPPs in Ghana and beyond.

AT A GLANCE

Technology
Solar PV

Project type
Grid-connected

Offtaker
Electricity Company of Ghana (ECG)

KPIs

Greenhouse gas emissions avoided: 31,500 tCO_2e per year

People with improved energy access: 150,000

Jobs created: 150 during construction, 15 during operation

Installed capacity: 20MW

FUNDING STRUCTURE

Contracted date
15 August 2017

Lending type
Development capital

REPP funding
USD $540,000

"Windiga is thrilled to engage with REPP to make the Tilli project a reality. Once completed, this project will become a key driver of the regional economy and build capacity for further utility-scale solar PV projects among local technicians, other developers and the industry at large."

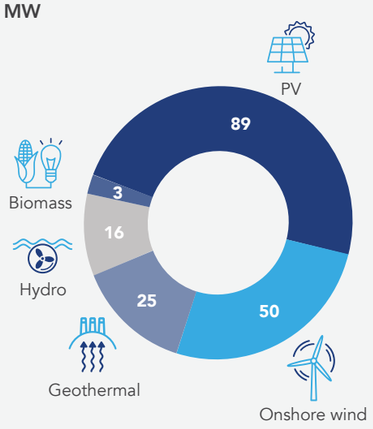
Simon Parent-Pothier, Windiga Energy

DEAL PIPELINE

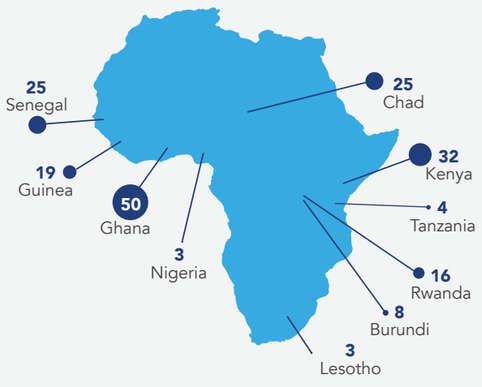
ADVANCED PROPOSAL STAGE - KEY HIGHLIGHTS:

- Projects being considered in the advanced proposal, term sheet or financing agreement stage include plans for **Chad, Guinea, Lesotho, Rwanda** and **Senegal** - all REPP firsts - and represent a total potential funding commitment of $59m.
- Combined, the 15 projects have a projected generating capacity of **183MW**, including a 15-25MW geothermal facility, another REPP first.
- More than **2,500 jobs** would be created during the construction phases and a further **278** during the operations and maintenance phases.
- **Solar PV** is the most prevalent technology in terms of total capacity (89MW - or 48.6% of the total) and number of projects (9 of 15).

CAPACITY BY TECH
In MW



CAPACITY BY COUNTRY
In MW



PERFORMANCE AGAINST CORE KPIS FOR ADVANCED PROPOSAL STAGE PROJECTS

People with improved or first-time access to energy:

Forecast: **3.9m** Target: **2m**

Greenhouse gas emissions avoided:

Forecast: **176,182 CO_2e per year** Target: **226,367 CO_2e per year**

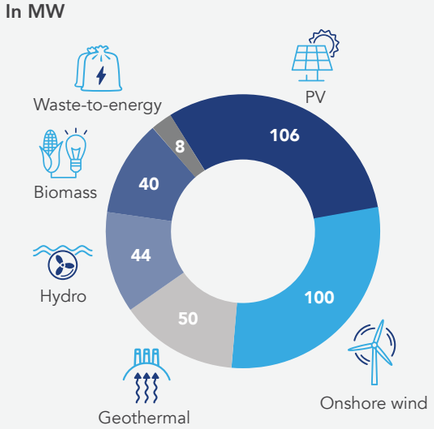
Capacity:

Forecast: **183MW** Target: **150MW**

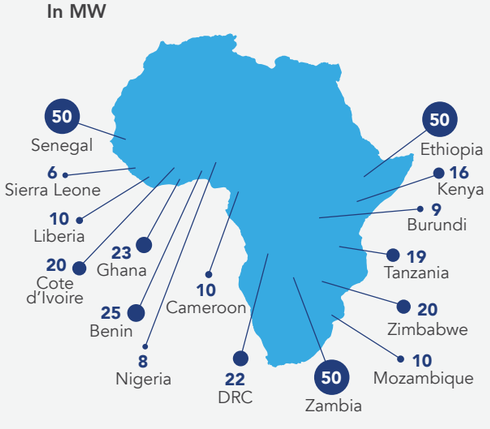
PIPELINE PROJECTS - KEY HIGHLIGHTS:

- Pipeline projects are spread across 16 countries, including newcomers **Cote D'Ivoire, Democratic Republic of Congo, Ethiopia, Liberia, Mozambique, Sierra Leone** and **Zambia,** with a total potential funding commitment of **$61.8m**.
- The projected generating capacity for all 21 pipeline projects is **348MW**.
- An estimated **4,276** temporary construction jobs would be created, plus **515** permanent operations and maintenance positions.
- Although **solar PV** dominates again in terms of total capacity (30.5%), **onshore wind** (28.7%), **geothermal** (14.4%), **hydropower** (12.6%) and **biomass** (11.5%) each make up a significant share of the total.
- An 8MW **waste-to-energy** plant - another would-be first for REPP - in Nigeria would account for the remaining 2.3%.

CAPACITY BY TECH
In MW



CAPACITY BY COUNTRY
In MW



PERFORMANCE AGAINST CORE KPIS FOR PIPELINE PROJECTS

People with improved or first-time access to energy:

Forecast: **8.5m** Target: **2m**

Greenhouse gas emissions avoided:

Forecast: **260,650 CO_2e per year** Target: **226,367 CO_2e per year**

Capacity:

Forecast: **348MW** Target: **150MW**

ENVIRONMENTAL AND SOCIAL IMPACT

Every REPP-supported project is fundamentally about improving the lives of sub-Saharan Africa's underserved communities by providing first-time access to clean, reliable electricity, or enhancing the quality of the existing supply.

In many cases the projects offer the promise of numerous additional benefits to local people, such as improvements to infrastructure, job creation and community funds. But, as is the nature of development, the projects carry the risk of negative impacts as well.

REPP prides itself on its commitment to minimising any adverse effects associated with the projects it supports, and in accordance with this has created a set of environmental and social (E&S) standards and procedures that provide a framework for assessing and managing those potential impacts.

As part of this, REPP requires that any major risks that might be caused by projects are properly identified and, where these are material, an impact mitigation plan must be provided. REPP also requires that adequate stakeholder and public consultations have been carried out – including consultation at all key decision-making stages of the project – and that grievance mechanisms are in place to identify and remedy unforeseen impacts on or concerns of stakeholders.

As fund manager, Camco is required to closely adhere to REPP's E&S Policy and Procedures, which are comparable to the International Finance Corporation's Performance Standards on Environmental and Social Sustainability.

On the ground this means working closely with project companies and E&S experts/consultants, whose cooperation is critical to the proper functioning of the E&S Policy and Procedures, and making sure they are sufficiently aware of REPP's requirements when the Engagement Letter is signed.

It is fundamentally in developers' interests to apply these standards so that they can have a sustainable project and attract the best funders. However, developers that fail to meet their responsibilities could potentially see all REPP support removed and any debts called in.

As part of the ESMS, all REPP-supported projects are required to have an Environmental and Social Impact Assessment. The type, scale, and location of the project will guide the scope and level of effort devoted to the assessment process in line with good international industry practice.

A full copy of the E&S Policy and Procedures is available on the REPP website.

"The Seta waste-to-energy project is not only an opportunity to generate clean electricity from renewable biomass that will directly benefit thousands of households in the region; it is also an endeavour to enhance public health. By putting an end to the open-air burning of wood waste from local saw mills and instead using that wood to power the plant, there will be an immediate positive effect for all of our people, particularly our children."

Rachel Ngazang Akono, Prefect of Ebolowa Region

ABOUT THE UK'S INTERNATIONAL CLIMATE FINANCE

The UK and other developed countries have set binding targets to jointly mobilise $100bn per year in climate finance for developing countries from public and private sources.

As part of this commitment, the UK government established the International Climate Finance (ICF) initiative - a £2.9bn pool of money to be spent from 2011/12 to 2014/15. This pool has since increased to £5.8bn to be spent between 2015/16 and 2020/21, which places the UK amongst the world's leading providers of climate finance.

ENDING POVERTY THROUGH CLIMATE ACTION

The fund is intended to be split evenly between mitigation and adaptation measures, and reflects the government's view that climate change is the biggest threat to the long-term eradication of global poverty, and that its impact will hit the poorest hardest.

A diverse portfolio of programmes, including REPP, is being supported through the ICF and managed between the Department for Business, Energy and Industrial Strategy (BEIS), the Department for International Development (DFID) and the Department for Environment, Food and Rural Affairs (Defra).

Every investment is geared around eradicating poverty - both now and in the future - by helping developing countries to manage risk and build resilience to the impacts of climate change, take up low-carbon development at scale and manage natural resources sustainably.

TARGETED FINANCE

To meet these objectives requires transformational change, which the ICF is able to deliver through well-targeted finance - such as helping to pay the incremental cost of making infrastructure investments "climate smart" and avoiding lock-in of high-carbon technologies. The fund is also being used to incentivise countries to reduce deforestation and promote sustainable land use.

Together, these powerful interventions demonstrate how low-carbon, climate-resilient development paths are viable and compatible with economic growth and poverty alleviation.

Cumulative data collected by the government show that between 2011/12 and 2016/17, programmes supported by the ICF:

- helped 34m people cope with the effects of climate change;
- provided 12m people with improved access to clean energy;
- reduced or avoided 9.2m tonnes of greenhouse gas emissions;
- installed more than 400MW of clean energy capacity; and,
- mobilised £2.2bn public finance for climate change purposes in developing countries.

INCENTIVISING THE PRIVATE SECTOR

Total investments by the private sector, however, fall a long way short of public spend at around £500m over the same period. The UK government sees the mobilisation of private investment in climate action as crucial to meeting global climate targets, and is committed to working alongside the sector to promote the transformation necessary to align finance flows globally.

This in part means using climate finance as a way to help overcome the barriers that are currently preventing or disincentivising private investments, by building capacity and capabilities in developing countries. Using public money to help create the conditions that encourage the private sector to invest is an essential step in delivering on the Paris Agreement and limiting the global temperature increase to 2°C.

For this reason, the ICF tests new and innovative approaches like REPP 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 proving its important role in helping developers to bring access to clean energy supplies to communities, avoiding greenhouse gas emissions and enabling projects to draw in further private sector investment.

ABOUT CAMCO CLEAN ENERGY

Camco specialises in clean energy investments. Since its formation in 1989, the company has provided creative finance solutions to 180 projects worth $15bn across a wide range of technologies – both on-grid and off-grid – and in countries as diverse as Madagascar to Malaysia and the US to Uganda.

Camco's experienced team is spread across offices in London, Helsinki, Accra, Nairobi and Johannesburg, and is united by its passion for clean energy and economic development.

Camco works on fund formation and advisory, asset management, monitoring and evaluation, and has managed a number of climate investment portfolios, including REPP. The company combines:

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

Unlike many fund managers, Camco has hand-on experience with both project development and the creation of policy and regulatory frameworks. Its team places high value on its local presence and experience, and believes this has enhanced its ability to deliver on the REPP mandate.

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 has helped raise over $360m of capital – both in debt and equity – for investment in renewable energy projects. It has also supported the financing of projects with total capital investment of over $15bn by building one of the world's largest clean development mechanism (CDM) portfolios.

MANAGEMENT

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

REPP'S AUDITED FINANCIAL STATEMENTS

BALANCE SHEET

	AS AT 31 MARCH 2017 £	AS AT 31 MARCH 2018 £
Fixed assets		
Fixed asset investments - loans receivable	135,293	**1,176,801**
	135,293	**1,176,801**
Current assets		
Debtors: amounts falling due within one year	149,382	**12,798,927**
Cash at bank and in hand	731,640	**511,686**
	881,022	**13,310,613**
Creditors: amounts falling due within one year	(1,016,315)	**(14,487,414)**
Net current liabilities	(135,293)	**(1,176,801)**
Total assets less current liabilities	-	-
Net assets	-	-
Capital and reserves	-	-
Capital	-	-

STATEMENT OF CASH FLOWS

	PERIOD ENDED 31 MARCH 2017 £	PERIOD ENDED 31 MARCH 2018 £
Result for the financial period	-	-
Adjustments for:		
Interest received	-	**(46,744)**
Taxation charge	-	**12,485**
(Increase) in debtors	(149,382)	**(12,561,195)**
Increase in creditors	1,016,315	**13,025,905**
Net cash generated from operating activities	866,933	**430,451**
Cash flows from investing activities		
Issue of long-term loans	(135,293)	**(650,552)**
Interest received	-	**147**
Net cash from investing activities	(135,293)	**(650,405)**
Net (decrease)/increase in cash and cash equivalents	731,640	**(219,954)**
Cash and cash equivalents at the beginning of period	-	**731,640**
Cash and cash equivalents at the end of period	731,640	**511,686**
Cash and cash equivalents at the end of period comprise:		
Cash at bank and in hand	731,640	**511,686**
	731,640	**511,686**

PROFIT AND LOSS

	PERIOD ENDED 31 MARCH 2017 £	PERIOD ENDED 31 MARCH 2018 £
Grant income	1,282,888	**1,271,364**
Gross profit	1,282,888	**1,271,364**
Operating expenses	(1,282,888)	**(1,314,264)**
Operating (loss)/result	-	**(42,900)**
Interest receivable and similar income	-	**48,904**
Profit/result before tax	-	**6,004**
Tax on profit/loss	-	**(6,004)**
Profit for the period	-	**-**

CONTACT INFO

REPP

www.repp.energy
info@repp.energy

CAMCO (REPP fund manager)

Geoff Sinclair, MD
contact@camco.energy
+44 (0)207 121 6101

REPP COMPANY INFORMATION

Directors: P U H Coveliers (appointed 14 December 2015), L Pourarkin (appointed 1 January 2017), E P Usher (appointed 14 December 2015)
Company secretary: K V Upston-Hooper (appointed 20 November 2015)
Registered number: 09882930
Registered address: Unit 4.12 Clerkenwell Workshops, 31 Clerkenwell Close, London EC1R 0AT.

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, Rawlinson & Hunter Audit LLP.

ABOUT CALCULATIONS USED IN THIS REPORT

Avoided emissions are generally calculated by dividing the number of MWh generated (or forecast) by the country's grid emissions factor (GEF). Use of GEFs can produce a range of results – for example, Ethiopia's grid is largely powered by hydro, so new clean projects will have relatively low 'avoided emissions'. Other countries such as Nigeria use a lot of fossil fuels, meaning that a clean energy project avoids more emissions.

For the purpose of this report, 'improved access to energy' refers to an existing supply that is supported by the project. The number of people that are 'supported' is a simple calculation of the project's projected MWh generated per year divided by the average consumption per person in sub-Saharan Africa. 'First-time access to energy' refers, as it sounds, to any person or business being connected to an electricity supply for the first time as a direct result of an off-grid project (i.e. SHS, mini-grids and the mini-grid component of a grid-connected project). To calculate the number of people receiving first-time energy access through an off-grid project, the project's total number of new connections is multiplied by five, which represents the average number of people living in a household.

WITH THANKS TO:

REPP founders

European Investment Bank

UN environment

REPP funders

Department for Business, Energy & Industrial Strategy

UKaid from the British people

REPP manager

camco CLEAN ENERGY

REPP partners

African Trade Insurance Agency

OPIC

GLOBAL CLIMATE PARTNERSHIP FUND

TDB

FMO Entrepreneurial Development Bank

GuarantCo

OIKO CREDIT investing in people

EDFI ElectriFI

INSPIRED EVOLUTION Investment Management

FINNFUND

BOAD

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

REPP developers

PAS BBOXX

LUDEWA CLEAN ENERGY LTD
EMPOWER ENERGY
Powering development

GIGAWATT GLOBAL

Gaia

seta

PowerGen RENEWABLE ENERGY

WINDIGA

VIRUNGA POWER

GVE

CRONIMET
Mining Power Solutions

RUAHA ENERGY