



Beyond the Grid Fund for Africa

IMPACT REPORT 2022





Photo: Engie Energy Access, Uganda

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Today, over **600 million people** in Sub-Saharan Africa live **without access to electricity**.

For most of these people, connection to the grid is not likely to happen for decades, or longer.

The Beyond the Grid Fund for Africa (BGFA) aims to reduce this gap by stimulating and accelerating new business models to incentivise the private sector to offer affordable and clean energy access at scale to people living in rural and peri-urban areas.

The BGFA programme aims to establish up to 1.44 million energy connections by 2028, benefiting more than 6.5 million people in Burkina Faso, the Democratic Republic of the Congo, Liberia, Mozambique, Uganda and Zambia.

Key achievements of BGFA in 2022



13

portfolio companies



4

Sub-Saharan countries



953,000

energy service subscriptions



4.8m

total beneficiaries



€25m

funding committed



€80-100m

expected leveraging



3,600

full-time jobs to be created



€2.77m

disbursements made

A word from BGFA Chair



Anders Arvidson
Chair, BGFA Steering Committee
Sida, Sweden

The Beyond the Grid Fund for Africa (BGFA) is one of Sweden's innovative flagship programmes that we at the Swedish International Development Agency (Sida) are proud to have co-created and support. BGFA is a shining example of one of the new catalytic financing approaches Sida has introduced to its toolbox of instruments to contribute to increasing access to energy in Africa. It was conceived as the result of a commitment made by Sweden in 2015 to mobilise private sector capital, innovation and skills to increase access to modern energy services among underserved populations in Africa.

The BGFA journey started as the Beyond the Grid Fund for Zambia (BGFZ)¹, where catalytic procurement as a financing mechanism to grow the market for distributed renewable energy services was applied in 2017. The catalytic procurement approach developed and applied in Zambia was shown to be able to quickly reach underserved populations with sustainable renewable energy services. The target of reaching one million people in rural and peri-urban areas was met in early 2022. In addition, the approach has supported the establishment of an active off-grid market, mobilised private capital in the form of debt and equity investments, created thousands of green jobs and contributed to continued reform and many other external impacts beyond energy access itself.

The development of the BGFA programme has been an iterative and adaptive process, with the facility manager, Nefco, striving for continuous improvement. It is now a machine equipped with templates and standard operating procedures, with improvements constantly being introduced and implemented across all BGFA countries.

We are thrilled to see the effectiveness with which this machine continues to function and to follow

the portfolio of companies that have already been contracted in 2022. The BGFA programme is now in full swing and we look forward to following the progress of the many more millions of people receiving access to modern, clean and affordable energy services.

BGFA is also a programme that generates important insights that facilitate continuous adjustment and improvements. These learnings are also an inspiration and food for thought for us as a donor when considering complementary contributions that could support the growth of the sector, be it technical assistance for regulatory reform or sharing risk with debt providers. These insights and learnings can benefit other stakeholders as well, and we are happy to see the thought and effort that Nefco is putting into knowledge management and communication of these learnings.

We are also delighted that the group of donors contributing to BGFA continues to grow. This enriches dialogue with new perspectives and ideas and contributes to joint learning amongst donors and Nefco. Denmark, Germany's KfW, USAID Power Africa and, most recently, Norway are now part of the family of donors contributing to BGFA. Together we look forward to continuing to support and contribute to the success of BGFA in the years to come.

1. The BGFZ was established and financed by Sweden and implemented by the Renewable Energy Efficiency Partnership (REEEP).

Reflection by the Fund Manager



Ash Sharma
Head of Beyond the Grid Fund for Africa
Vice President, Nefco

The year 2022 has been a fruitful one for the Beyond the Grid Fund for Africa. Following years of mobilisation (2019), market scoping (2020) and designing and launching the Calls for Proposals (2020-22), the principal focus of 2022 has been on contracting the first BGFA portfolio companies and further developing the pipeline. The year also marked the end of the predecessor phase of BGFA, the Beyond the Grid Fund for Zambia. Through this programme, four companies (three solar home systems and one mini-grid company) were supported, serving over a million Zambians, a milestone commemorated at a special event at the Swedish Embassy in Lusaka in March 2022.

A clear emphasis on portfolio building during 2022

The off-grid sector in Africa has been struggling following the COVID-19 pandemic but has been showing signs of recovery. Base-of-the-pyramid consumers in rural settings face extreme affordability challenges. Experiences elsewhere have shown that a financing gap exists that needs to be bridged through smart subsidies allocated in a fair and efficient manner. BGFA is well positioned to allocate public funding to catalyse and de-risk private sector rollout of high quality, distributed energy services to Africans in a scalable and sustainable way. We believe that whilst investment in the sector continues to grow, financed primarily through impact investors and energy-access-focused strategic investors, an important role for instruments such as BGFA remains.

In particular, BGFA has demonstrated an ability to attract companies into weak or emergent off-grid markets such as Burkina Faso and Liberia. The overall portfolio is already diverse and includes a mix of small, local companies and larger, international actors, with the common factor being the capacity to scale sustainable businesses.

Late in the year, we brought onboard our fourth donor, the Government of Norway, through the Norwegian Development Agency Norad, which announced NOK 200 million (ca. EUR 19 million) of funding at the UNFCCC Climate Conference (COP27) in Sharm El Sheikh, Egypt. The funding is already being spread across the pipeline to expedite the allocation of additional capital to the supported companies.

This brings the value of BGFA to EUR 126 million, exceeding our target capitalisation and allowing our portfolio companies to serve many more people with affordable, clean energy. We are especially proud that three of Nefco's owners, Denmark, Norway and Sweden, are among the contributors.



Anne Beathe Tvinneim, Norwegian Minister of International Development announced Norway's contribution of NOK 200 million to BGFA at the COP27 meeting in Egypt in November 2022. Photo: Nefco

By the end of 2022, the BGFA portfolio included 13 companies, contracted to deliver 953,130 connections in four African countries, serving 4.8 million rural beneficiaries. Country project portfolios have been built in Burkina Faso, Liberia, Uganda and Zambia. These agreements, worth approx. EUR 25 million, are aimed at leveraging a further EUR 80-100 million in total funding by end of 2027.

Communications, capacity building and knowledge management are important elements of BGFA. The main objective of these activities is to promote the programme to various target audiences with relevant messages through appropriate channels to showcase contextualised impact stories. Through these activities, the BGFA story will showcase the learning from and impact of the programme and incentivise private and public sector entities to contribute and cooperate towards reaching BGFA's stated objectives.

Overview of operations in 2022



Photo: Jason Mulikita for BGFA

First projects contracted in 2022

By the end of 2022 the BGFA portfolio included 13 contracted companies, which aim is to deliver some 953,000 connections, benefiting 4.8 million rural beneficiaries in 4 countries.



During 2022, standalone solar home systems were the first projects to be contracted, and they currently dominate the portfolio. However, three mini-grid companies in Liberia and Zambia, and one innovative service provider employing a short-term battery rental business model, are also among the contracted companies. As expected, the technology focus is overwhelmingly solar, driven by strong project economics, with one system based on small hydro. Almost all companies are using the game-changing PAYGO² financing model.

Nefco has made a dozen disbursements to the supported companies, with EUR 2.77 million having been paid out during 2022. BGFA has begun to support these companies also with targeted technical assistance. These sums will significantly ramp up in the coming years as the companies deliver on their rollout plans and further funds are leveraged in line with their capital raising projections, allowing them to deliver on the obligations made to BGFA.

During the year, one new Call for Proposals was launched in the Democratic Republic of the Congo. Following a fast-tracked market scoping exercise, a fourth BGFA funding round was launched to enable the establishment of up to 110,000 energy connections and some 50 high-tier productive use connections that can benefit more than 500,000 people in the country. A strong response was received, and by the end of the year the procurement cycle had reached the Final Application stage. Pre-qualified applications are spread

across different technologies, including mini-grid, solar home systems and productive use of energy projects. The funding proposals submitted by eligible applicants represented 7.4 times the available funding.

The second Call for Proposals, BGFA2, focused on mini-grids in Mozambique, launched in early 2021, but has been stalled for 18 months due to a lack of regulatory certainty in the country. BGFA has been monitoring the situation together with local regulatory partners. Late in the year, announcements made by the Government of Mozambique regarding the approval of the Regulatory Framework for Off-Grid Energy Access have provided an opportunity to plan a relaunch of BGFA2 as a testing ground for the new regime in 2023.

In the second half of the year, Nefco undertook an early evaluation of the first three Calls for Proposals. The independent evaluation undertaken by Oxford Policy Management found that the BGFA offering was highly supportive of national energy access programmes and broader development objectives, particularly in relation to access to finance and bridging the affordability gap, and appropriate to the financial needs of the beneficiary companies. However, it also identified opportunities for simplifying and streamlining the procurement cycle, which Nefco will follow up on in 2023.

2. An innovative credit system, typically implemented through mobile phones, used by off-grid companies to allow consumers to make a series of affordable payments to purchase solar electricity instead of paying upfront for the entire product.

Other programme activities

BGFA has commenced its monitoring programme. Following an international procurement process, NIRAS has been contracted by Nefco to perform consultancy services related to the monitoring and reporting of company performance in the provision of sustainable off-grid services under results-based contracts from BGFA. As part of the monitoring, reporting and verification services, NIRAS is responsible for verification of payment requests by contracted energy service providers, implementation progress and milestones reached by energy service providers, support work related to impact evaluations and established energy service subscriptions in BGFA countries. This system has been employed for the first disbursements of 2022.

Data analytics is another key pillar of BGFA. One of the main barriers to the development of off-grid services has been a lack of high quality, reliable and up-to-date data and information, leading to inefficient planning, sub-optimal decision-making and poor outcomes. Together with external partners, BGFA is currently working to evaluate and test the suitability and robustness of a new near real-time software platform to manage data collection, storage, access, analysis and visualisation, as well as remotely verify off-grid energy services.

Targeted technical assistance (TA) to companies will be provided by BGFA's implementing partner, REEEP. TA is needs driven and responsive to capacity deficits that need to be overcome to meet contracted BGFA outcomes. Other third-party specialist support will be provided in relation to, e.g., e-waste management and investment facilitation.

The BGFA institutional programme has already begun and is being rolled out in phases across countries of operation. Following a separate competitive international procurement, NIRAS has been contracted as an implementing partner by Nefco to perform in-country consultancy services related to local institutional support services. The assignment entails providing support to develop a constructive environment for off-grid electricity access by setting up institutional support in each of the BGFA project countries. The initial focus has been on continuing the Zambian programme and undertaking initial scoping and stakeholder engagement exercises in all countries by the end of the year, prioritising markets with existing portfolio companies. Knowledge gained from Zambia established Off-Grid Energy Task Force (OGTF) will be utilised to develop OGTFs in other BGFA countries as well.

In addition, a major skills development initiative in Uganda has been kicked off. Enhancing employment and skills in the off-grid sector is a key priority of BGFA's programme. Further to an initiative by Denmark to design a job creation and enhanced-skills development sub-programme, and jointly funded by Sweden, Nefco has procured and contracted the Renewables Academy together with Inensus (Germany) and Ugandan partners Uganda Solar Energy Association and Sendea to develop and undertake training courses that are primarily targeted at BGFA supported companies and other market actors. The two-year programme will develop participants' technical, sales and business skills within the area of solar home systems and mini-grids with the ultimate goal of supporting the creation of local jobs and in particular increase women's participation within the off-grid energy sector in Uganda.



Woman selling her products at an evening market in Liberia, getting light from an off-grid light bulb.

An innovative financing approach

The Beyond the Grid Fund for Africa (BGFA) is an expansion and scaling up of Sweden’s innovative, results-based financing initiative in Zambia. BGFA seeks to incentivise the private sector to provide affordable, clean, high quality energy services to underserved, energy poor people mainly in off-grid rural and peri-urban areas. BGFA is designed to stimulate and accelerate the emergence of new business models to provide affordable energy access at scale in Africa whilst demonstrating sustainability over time. BGFA’s main target group is private sector enterprises, referred to as Energy Service Providers; ESPs, who provide ongoing off-grid energy services to end consumers.

The emphasis of BGFA is on scaling up off-grid access, and companies are selected on this basis. BGFA aims to bridge a critical gap between early-stage financial

support, traditionally offered by challenge funds and (impact) equity, and concessional/commercial debt needed for transitioning to scale.

BGFA adopts a ‘social impact procurement’ approach to provide direct, results-based financing to companies to overcome early structural challenges in the market, build business and investor confidence and proactively mobilise various types of downstream investment and debt financing. A key performance indicator is total financing leveraged, as this has been shown to be a good indicator of business success in the off-grid sector.

Flexibility of financing is critical. The fund is built on the belief that companies know their funding needs best, so BGFA places few restrictions on the deployment of funds as long as they support the scaling of energy access as agreed in the BGFA financing contract. BGFA

Funding rounds and targets

		TARGETS			
					
		CONNECTIONS	BENEFICIARIES	TOTAL FINANCING*	TECHNOLOGIES
FUNDING ROUNDS	BGFA 1: BURKINA FASO LIBERIA ZAMBIA	700,000	3.5m	€30m	MINI-GRIDS SOLAR HOME SYSTEMS PRODUCTIVE USE
	BGFA 2: MOZAMBIQUE	42,000	210,000	€6.7m	MINI-GRIDS
	BGFA 3: UGANDA	600,000	3.5m	€20.7m	MINI-GRIDS SOLAR HOME SYSTEMS PRODUCTIVE USE
	BGFA 4: DEMOCRATIC REPUBLIC OF THE CONGO	100,000	500,000	€15m	MINI-GRIDS SOLAR HOME SYSTEMS PRODUCTIVE USE

*Excludes €13.3m from Norway to be used for all funding rounds.

funds are provided as free equity linked to clearly defined results and milestones and can be used to cover expenditure and investments in relation to business establishment and operational activities.

BGFA employs a rigorous, transparent and competitive process to identify and contract companies. It uses specialist third-party evaluators to score applicant submissions, placing great emphasis on the avoidance of Conflicts of Interest. The principal mode of origination has been the two stage Call for Proposals – pre-qualification and final application (business plan with price offer) – which covers one or more country windows. In turn, each country window may include separate funding lots that cover technology types such as solar home systems or mini-grids. The first Call (BGFA1) was launched in September 2020 and covered Burkina Faso, Liberia and Zambia. Subsequent Calls and their funding are summarised in the Funding rounds and targets figure to the left.



Seminar for BGFA stakeholders in Kinshasa, DRC in November 2022. Photo: REEEP.

Promoting responsible e-waste management through BGFA

Sustainable management of solar e-waste is an emerging priority for the off-grid sector in Africa. Solar home systems typically consist of one or more photovoltaic modules, components to provide light or charge electric devices and battery storage units. There are increasing environmental challenges when dealing with end-of-life off-grid solar products, especially ensuring proper collection and recycling of waste, given that policies, effective regulation and the physical infrastructure to manage e-waste is still developing in most African countries.

BGFA recognises that broader and coordinated action to ensure proper management of off-grid solar end of life products is needed. A founding principle for BGFA was that, regardless of legal obligations for take back and recycling (where they exist), alternative models should be provided, including voluntary approaches and incentives, to

encourage the return of products by consumers. Technical-assistance support is also being provided by DSS+.

BGFA also recognises the power of creativity and innovation by its portfolio companies in advancing best practices in the market. In the long term, BGFA is committed to a journey toward international best practices in responsible e-waste management and contributing to the emerging community of best practices in Africa, working collaboratively with practitioners, donors and other stakeholders in the countries of operation. The BGFA agreements have been used as a tool to incentivise adequate e-waste management practices. These include high product and consumer protection standards and requiring companies to have e-waste policies, action plans, standard operating procedures and proper end of life management.

A differentiated offer and balanced portfolio

BGFA aims to achieve a fairer form of competition when allocating capital, also promoting local companies, which can struggle to attract financing compared to larger, international actors³, reflecting the varying maturity levels of the off-grid markets in target countries and the differences between various players and activities in these markets. A distinction is therefore drawn between so-called Launch to Scale (LS) and Direct to Scale (DS) funding. LS funding is targeted at companies operating in less mature markets or entering those markets for the first time and can also partially be made available in advance. The latter are typically small enterprises, often locally owned or managed. Of the 13 contracted companies at year end, 10 were LS companies.

DS is funding directed at more mature companies and markets, which typically have better access to international equity and debt markets. DS funding is aimed at supporting companies that, due to their existing market position and experience, are expected to immediately deliver scaled distribution. The purpose of the DS funding is to reduce the costs of offering and maintaining energy connections at scale to low-income end customers or customers in remote areas.

Over time, BGFA aims to achieve a balanced portfolio, geographically as well as by typology of company (local, regional, international), technology (solar home systems, mini-grids, productive use of energy) and customer group (residential, commercial, institutional).







Photo: Jason Mulikita for BGFA

Gender inclusion is a key objective for BGFA

The approach towards gender inclusion in BGFA is to actively promote, incentivise and transfer best practices regarding gender equality in BGFA countries. Gender inclusion encompasses all stages of the BGFA programme cycle, from the procurement cycle to monitoring and impact evaluation. It covers the requirements placed on the BGFA supported companies as well as their customer operations. The companies are also actively supported through technical assistance in not only meeting BGFA's requirements but in promoting the more active role of women in the off-grid energy service value chain.

Children in Zambia watching television in the classroom with an off-grid connection through a solar home system appliance.

BGFA portfolio companies at year end 2022

COUNTRY PROGRAMME	COMPANY	TECHNOLOGY	#ESS ⁴
 Burkina Faso	Oolu Solar	Standalone solar home systems	28,190
	ARESS	Standalone solar home systems	20,954
 Liberia	Lib Solar	Standalone solar home systems	72,800
	Mobile Power	Solar battery rental services	9,361
	Easy Solar	Standalone solar home systems	9,155
	Energicity	Solar mini-grid	4,491
 Zambia	Vitalite	Standalone solar home systems	113,400
	RDG Collective	Standalone solar home systems	25,697
	Zengamina Power	Small hydro/solar mini-grid	2,600
	Power Corner Zambia	Solar mini-grid	3,212
	Engie Energy Access Zambia	Standalone solar home systems	295,668
 Uganda	d.light Design Uganda	Standalone solar home systems	200,000
	Engie Energy Access Uganda	Standalone solar home systems	167,600
TOTAL			953,128

3. GOGLA reports that a study [<https://acumen.org/wp-content/uploads/Acumen-Exits-Off-Grid-Energy-Report.pdf>] by Acumen found most off-grid investment was concentrated in a few companies led by expatriate founders. Only 10 solar home system companies accounted for 84% of global energy access investments between 2010 and 2018. Of these, 8 operate in Africa.

4. ESS vary by nature, and # of ESS is not directly comparable. A mini-grid subscription can power small business whereas a solar home system provides basic electricity to a household.

Sustainable Development Goals and adopting a gender lens

Whilst the main aims of BGFA are to support energy access in line with the Sustainable Development Goals (SDG 7), BGFA has positive impacts for climate change mitigation (SDG 13), enhanced resilience and adaptation (e.g. in the context of reduced use of kerosene fuel for lighting or sustainable use of bioenergy and reduced deforestation with adaptation benefits) and minimising broader environmental impacts, e.g. via proper e-waste management.

The approach to gender inclusion (SDG 5) in BGFA is to actively promote, incentivise and transfer best practices regarding gender equality in BGFA project countries. Companies are required to offer equal opportunities for men and women through their own policies and employment practices as well as through the proposed investment. Both company level and project-specific gender commitments made in the application are cemented as contractual undertakings with measurable indicators and targets that are monitored and enforced in an active dialogue with contracted ESPs, i.e. the companies, throughout project implementation. Through practical technical assistance, BGFA supports the companies in mainstreaming gender aspects of their operations and project implementation.

Photo: Energycity, Liberia



NEFCO

BGFA is a multi-donor programme managed by Nefco, the Nordic Green Bank, an international financial institution focused only on financing environmental and climate projects established by the Nordic governments in 1990. Nefco is an experienced fund manager, accredited both by the EU and the Green Climate Fund, which takes care of all fiduciary, programmatic and administrative work, maintaining full technical oversight of BGFA on behalf of its donors.

[Read more at www.nefco.int](http://www.nefco.int)

The BGFA portfolio primarily targets three specific UN Sustainable Development Goals



And additionally contributes to



Donors and implementation structure

In 2019, Sweden and Nefco signed an SEK 500 million (EUR 48 million) agreement to establish and expand the BGFA initiative to several new African countries. BGFA has since received further financing from Sweden and brought on board the Governments of Denmark (2020), Germany (2021, acting through KfW) and Norway (2022, acting through the Norwegian Agency for Development, Norad). The USAID Power Africa programme provided an in-kind contribution during the period 2019–2022. BGFA is currently capitalised at EUR 126 million and operates in six countries.

The BGFA programme is managed by Nefco and implemented together with the implementation partners: REEEP and NIRAS. Other specialist service providers are occasionally engaged to support a successful implementation of the programme.

Overview of BGFA facility structure













First impact results

BGFA is reporting its aggregated results for the first time using available data at year end 2022 for the 13 contracted companies at that time. Selected indicators and its impacts are shown in below table.

The results are based on payments made to BGFA projects that have been checked and approved for payment by BGFA monitoring consultant NIRAS as

of 31 December 2022. For this report, this refers to four reporting companies. More recently contracted companies will report results during the current year and these figures will be included in future reporting, resulting in further improvement and coverage of the above development impact indicators.



INDICATOR	SDGs	RESULTS IN 2022 ⁵	EXPECTED TOTAL RESULTS ⁶	NOTES
Number of electrical connections	  	38,519	953,128	An electrical connection is defined as an energy service subscription made by end customers entering into a contract with an energy service provider for provision of eligible energy services or solutions
Number of female customers		12,466 (32%)	N/A	
People with access to electricity	  	200,395	4.8 million	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 in average 5.2 persons in BGFA countries based on 2017 UN data.
Number of businesses with access to electricity	 	N/A	32,000	
Total avoided GHG emissions (tCO₂e/a)		4,497	374,000	Total estimated greenhouse gases (GHG) avoided annually – the amount of emissions, in tonnes of carbon dioxide equivalent (tCO ₂ e/a)

UN Sustainable Development Goals:



INDICATOR	SDGs	RESULTS IN 2022 ⁵	EXPECTED TOTAL RESULTS ⁶	NOTES
Replaced kerosene lamps	7	76,998	1,906,256	A replaced kerosene lamp is defined as an energy service subscription replacing two kerosene lamps per household. This is based on assumptions behind IVL CO2 calculations for BGFA.
Renewable energy capacity installed (MW)	7	1.27 MW	17.9 MW	Renewable energy capacity installed means the aggregate rated power, in MW, of standalone solar home systems, mini-grids or other electricity generator when operational. Also known as nameplate capacity and rated capacity.
Renewable energy generated annually (GWh)	7	0.53 GWh	17.8 GWh	
Co-financing leveraged	17	N/A	€80-100m	Co-financing leveraged – financial resources committed by third parties to a project supported by BGFA.
Number of jobs created	1 8	N/A	3,635	Only permanent jobs are considered. A created permanent job means a job that has been created by the project company since the start of BGFA contracting, directly related to the BGFA-funded activities and active at the time of reporting. Full-time jobs are jobs with at least 5 full working days per week, with 'full' defined as a minimum of 6 working hours per day.

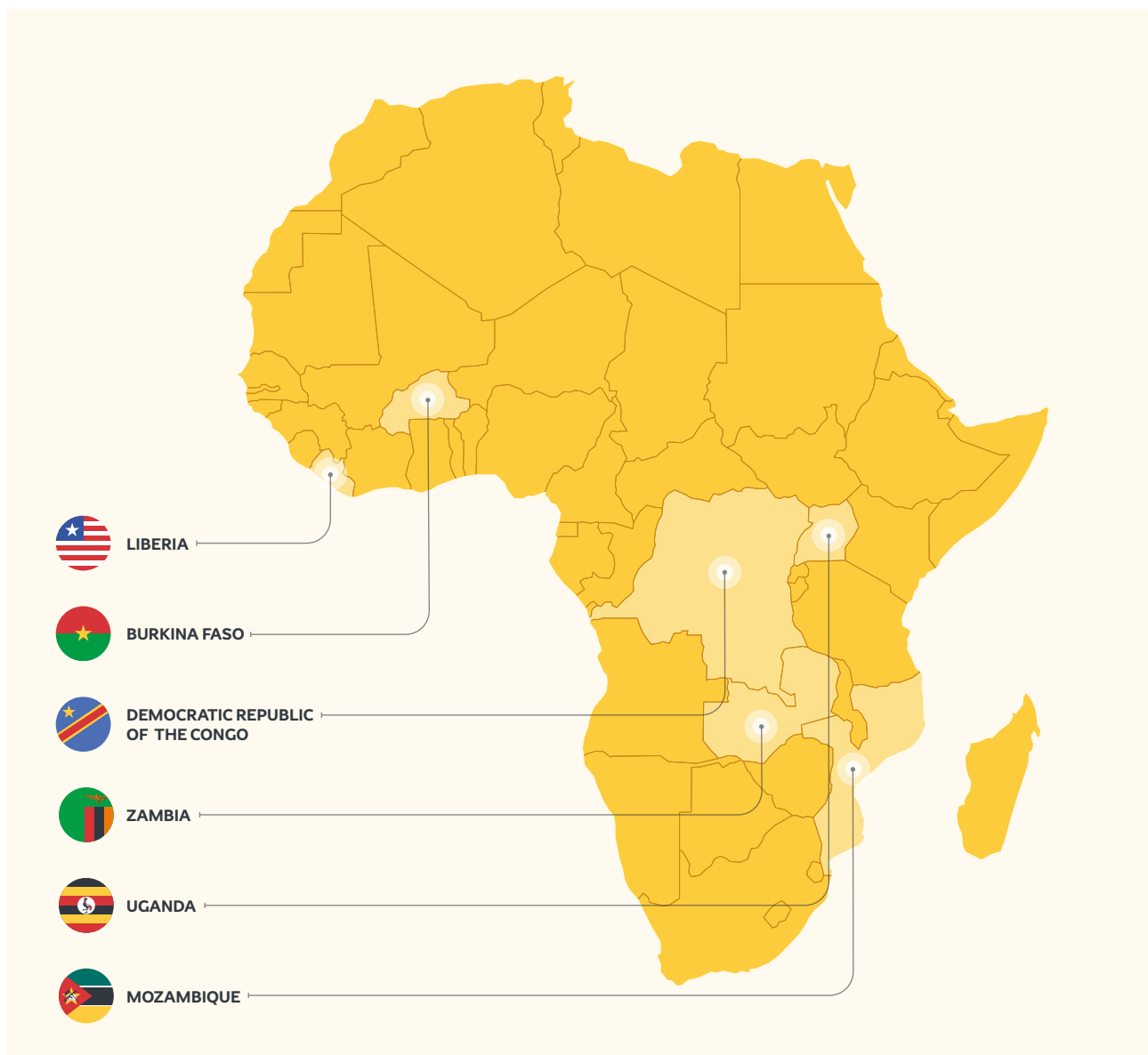
5. Based on the results-based payments made to BGFA projects which have been checked and approved for payment by BGFA monitoring consultant NIRAS by 31 December 2022

6. Based on the agreements of the 13 BGFA signed projects as of 31 December 2022



Photo: Jason Mulikita for BCFA

BGFA countries of operation



Country overviews

BGFA aims to achieve a balanced geographic portfolio in line with the funding priorities set by the donors. For countries in which the off-grid renewable energy sector is in the very early stages of development, such as Liberia, Burkina Faso and Mozambique, the aim is to achieve rapid and sustainable expansion of access by targeting a range of energy tiers in all areas with financial incentives. For more advanced markets, like Zambia and Uganda, the BGFA approach is tailored to complement

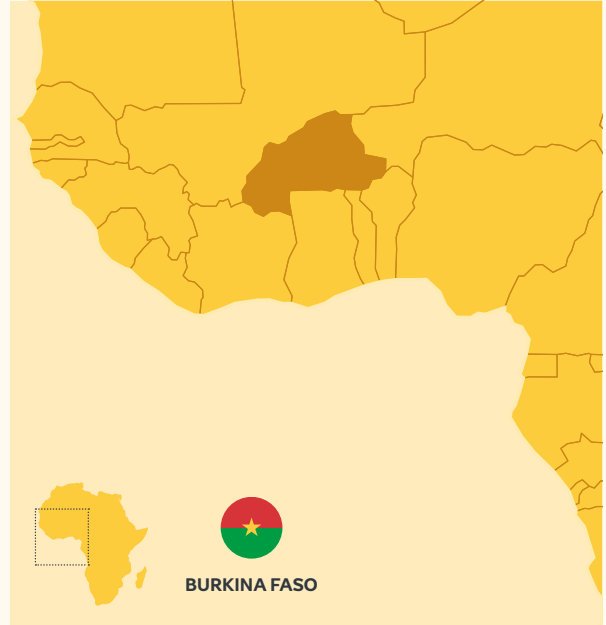
existing energy programmes and facilitate a transition up the 'energy ladder'. This includes further remote area access and incentives for mini-grids and/or mini-grid-connected products and services, as well as targeting high-value agricultural and income-generating assets and activities (productive use).

The companies contracted in 2022 are located in four BGFA countries of operation.

Burkina Faso

Burkina Faso is a nascent market. It is characterised by a low rural electrification rate (ca. 10%) and a difficult security situation but offers a market size estimated to be at least 700,000 households.

One funding window has targeted standalone solar home systems, with available funding of EUR 6.7 million provided entirely by Sweden. During 2022, two companies were contracted in Burkina Faso: Oulu Solar and ARESS. By the end of 2022, further projects were in different stages of negotiation.



SIGNED PROJECTS:

- Oulu Solar
- ARESS



Photo: Oulu Solar

Oulu Solar provides energy solutions and services for residential, commercial and institutional customers, in places that currently lack access to electricity.



Photo: Oolu Solar

“In recent years, many communities in Burkina Faso have endured worsening economic, security and climate conditions. With the support from BGFA, we can improve people’s lives in these underserved communities by providing modern and renewable energy access at affordable rates, often for the very first time”

Dan Rosa
Co-Founder and Chief Executive Officer at Oolu Solar.

OOLU SOLAR BURKINA FASO

Solar home systems providing reliable power supply in rural areas in Burkina Faso

Oolu Solar is a company that has been developing solar home systems for the African market since 2015 and is now active across five West African countries: Burkina Faso, Cameroon, Mali, Nigeria and Senegal. The Burkina Faso subsidiary was established in 2018 and provides energy solutions and services, including various solar home systems and large standalone systems for residential, commercial and institutional customers, in places that currently lack access to electricity.

With the support from BGFA, Oolu Solar will scale up its current business activities in Burkina Faso, aiming to establish over 28,000 additional subscriptions by the end of 2026, by providing solar home systems for lighting, mobile phone charging, TVs, fridges and freezers as well as power sources for commercial customers.

Oolu Solar will expand its operations across eight regions in which it is already operating: le Centre, la Boucle du Mouhoun, les Cascades, les Hauts Bassins, le Sud Ouest, le Centre Est, le Centre Ouest and l’Est. It will also commence operations in four additional regions. It is estimated that the BGFA project will help to provide clean off-grid energy solutions and lighting equipment for over 27,600 households and over 560 businesses and institutions. In the long term this will enable a higher standard of education and create numerous new employment opportunities in the country.

During 2022, BGFA funding helped the company launch its new operations in the country, and a positive effect on sales is expected to be seen in 2023.



28,000

energy service connections to be established



145,600

people getting access to energy



560

estimated businesses and institutions to benefit



Photo: Mobile Power, Liberia

“Our battery-sharing service reaches across the affordability spectrum because it requires no deposit, no debt and allows customers to rent as little or as often as they like”

Luke Burras
COO at Mobile Power

MOBILE POWER LIBERIA

Solar-powered MOPO batteries to increase access to electricity and power for low-income customers in Liberia

Mobile Power installs off-grid solar-powered MOPO hubs, charging MOPO batteries currently in four Sub-Saharan countries. By offering their customers a pay-per-use model, Mobile Power is supporting the development of an energy distribution system using clean energy.

The company was among the first applicants to secure funding from BGFA, in January 2022, to develop its subsidiary in Liberia. The first MOPO Hub was established in Liberia in 2020 and, with funding received from BGFA, the company plans to establish over 9,000 clean and affordable energy service subscriptions by the end of 2025.

The company provides short-term rentals of solar-charged batteries. The batteries can be used for a wide variety of applications, for example to charge mobile phones, power external light bulbs, run TVs and provide household energy for 24 hours. The larger batteries can also replace generators and power a range of electric vehicles, for example electric motorbikes.

BGFA funding has helped Mobile Power to scale rapidly across Liberia and reach customers in more remote and challenging areas in the country, which otherwise would not be considered commercially feasible.

During 2022, Mobile Power installed 30 MOPO hubs, employed 117 agents, providing full-time jobs for both local women and men, and served 11,000 customers across Liberia. The company provides energy access at a community level, so MOPO customers can access energy when it suits them and steadily increase their energy usage by renting more or larger batteries as they climb the energy ladder. This flexibility means lower income customers can also be reached, as the MOPO service does not require customers to commit to a defined level of electricity or long period of service. The MOPO platform tracks every battery rental, which enables the whole business model to be commercially sustainable and scalable, and enables distributed power delivery, even in areas with no phone signal or low mobile money penetration.



9,000

energy service connections to be established



11,000

customers served across Liberia in 2022



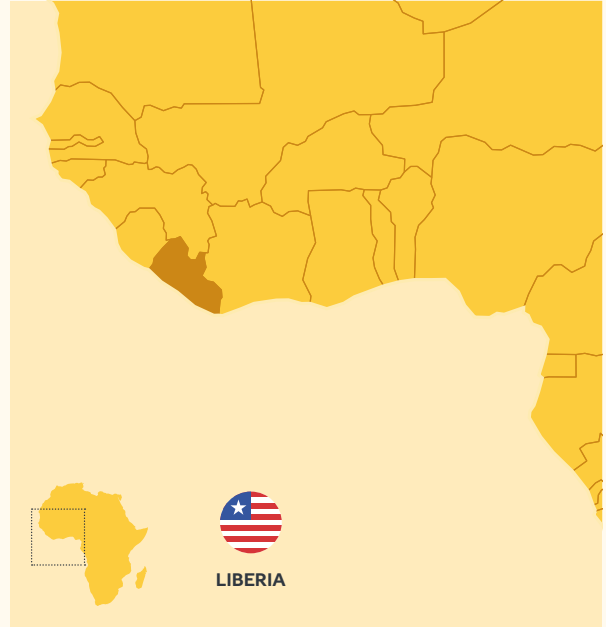
117

agents employed in 2022

Liberia

Liberia is another early-stage, frontier market for BGFA, given its very low rate of rural electrification and challenging socioeconomic and physical conditions.

However, it has strong market potential with an estimated target market of 820,000 households. Two funding windows have targeted solar home systems and solar mini-grids, with combined available funding of EUR 6.7 million provided entirely by Sweden. During 2022, Liberia has been one of BGFA's most successful markets, with four projects signed: Lib Solar and Easy Solar, which provide solar home systems; Mobile Power, which rents batteries; and Energency, a mini-grid company.



820,000

estimated market potential households in Liberia.

SIGNED PROJECTS:

- Lib Solar
- Easy Solar
- Mobile Power
- Energency

Photo: Mobile Power, Liberia

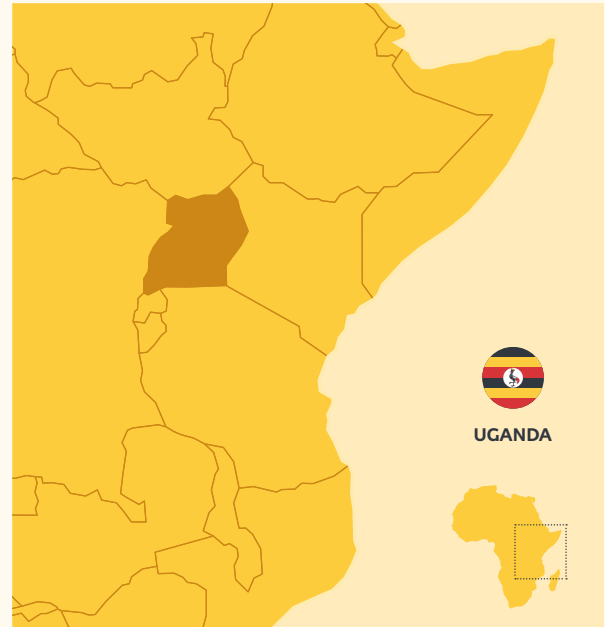


Woman renting a MOPO battery at a charging wall in Liberia.

Uganda

Uganda is BGFA’s largest active market, and the country’s off-grid sector is considered one of the most attractive off-grid PAYGO markets in Africa, according to GOGLA, a trade association for the global off-grid sector. It is also BGFA’s largest market by available funding.

Three funding windows were launched in April 2021 under the third Call for Proposals (BGFA3), targeting solar home systems and solar mini-grids, with combined available funding of EUR 20.7 million provided by Denmark and Sweden. A Direct to Scale (DS) window also exists, reflecting the level of market maturity. Given the later start of BGFA3, only two companies were signed in 2022: d.light Design Uganda and Engie Energy Access Uganda. At the end of the year, further projects were in different stages of the evaluation and negotiation process, including local companies.



SIGNED PROJECTS:

- d.light Design Uganda
- Engie Energy Access Uganda

Uganda off-grid skills development sub-programme under BGFA

Increasing employment and skills in the off-grid sector in Uganda is a key priority for BGFA. The off-grid skills development programme, primarily targeted to companies contracted under the third BGFA call for proposals, will develop participants’ technical, sales and business skills within the area of solar home systems and mini-grids with the ultimate goal of supporting the creation of local jobs and in particular women’s participation within the off-grid energy sector in Uganda. Curricula for the training courses in the area of solar home systems will have a strong focus on increasing the companies technical, sales and business skills.

The curriculum for mini-grid companies will focus on technical skills relevant to the installation and operation of mini-grids.

The programme was kicked off in Uganda in December 2022 and the courses will be delivered in 2023 and 2024. The training courses will target at least 300 beneficiaries, of which at least 30% must be women, and may differ in length, modality and required expertise, tailored to participating companies’ needs. The programme is carried out in partnership with Renewables Academy (RENAC) AG in cooperation with Inensus and Ugandan partners USEA and Sendea.



Photo: d.light Uganda

“We welcome the partnership with BGFA, which I believe will go a long way in increasing access to reliable power in communities through high-quality, affordable solar home systems. There are immense opportunities that this kind of partnership can unlock, and that excites us. We shall continue to live by our brand promise of Making Life Brighter”

Douglas Gavala
Managing Director, d.light Uganda

D.LIGHT UGANDA

Solar home systems providing electricity access in remote areas in Uganda

D.light Design Uganda is a local distributor of solar home systems in Uganda, established in 2016 as an operational subsidiary of the d.light Group. The company enables reliable power delivery through solar energy solutions, mainly in rural areas in northern and western parts of the country. The company provides a range of products, including solar lanterns, solar home systems, TVs, radios and smartphones.

With the support from BGFA, d.light plans to distribute 200,000 new high-quality, clean and affordable solar home systems in its existing areas of operation and grow its distribution partnerships in new regions of Uganda.

The company signed an agreement with BGFA in autumn 2022 and within just two months saw an increase in sales performance thanks to the announced BGFA support, selling approx. 1,500 energy service connections in total during this period.

d.light is making its products more affordable through a Pay-As-You-Go business model, which allows customers to make periodic (daily/weekly/monthly) payments for credit time on their device counted against their remaining credit. Payments are made via mobile money or collection outlets, after which an SMS text message is sent to the customer with an unlock code that corresponds to the amount of time the customer paid for.

To ensure last-mile capabilities, the company has established a network of distributors and d.light experience centres, i.e. stocking points, in every region in Uganda as well as commissioned sales agents in the most rural areas of Uganda, for example, based at local markets.



200,000

energy connections to be established



1M

people getting access to energy



DISTRIBUTORS

in every region in Uganda



Photo: RDG Collective, Zambia

“Appliances such as solar water pumps and refrigerators provide rural communities with the necessary tools to generate incomes and jobs that will be financially and environmentally sustainable in the long term”

Rune Gunnar Dige
 Founder and CEO at RDG Collective

RDG COLLECTIVE ZAMBIA

Own designed and developed solar home systems providing electricity and energy access in rural Zambia

Established in Zambia in 2018, RDG Collective is a company developing its own solar home systems that currently has operations in seven Zambian provinces. The company operates the entire supply chain, from design and manufacturing to sales and distribution, and provides after-sales support in all provinces, with the support of a network consisting of more than 100 commission-based sales agents. The agents are supported by local shops operated by RDG and partners.

RDG offers its products on a PAYGO basis up to 30 months in duration. This enables their customers, often first-time recipients of electricity, to spread their payments over an extended period, rather than paying cash up front. By eliminating this ‘barrier’, households across Zambia can access solar-powered appliances to improve and empower their lives.

Customers make a small initial deposit to receive the items, followed by daily, weekly or monthly PAYGO repayments to receive a ‘Power Keycode’ to unlock their unit. Customers continue to make repayments until the

pre-agreed loan has been paid off, allowing the customer to enjoy unlimited usage of the product.

With the support of BGFA, the company plans to establish and sell over 25,000 new energy service subscriptions, providing its own-designed solar home systems for households, including lighting, USB charging and other small rechargeable devices such as radios and TV screens. BGFA funding has also enabled RDG to expand its product offering to include refrigerators for commercial use and solar water pumps for small-hold farmers. The support is essential to enable RDG to expand its operation to the remote Northern and Western Provinces of Zambia.

In 2022, RDG expanded its sales network, upgraded three service centres, cooperated with eight rural partners to sell RDG products in new areas and expanded its product range from one to four products. In total 2,353 energy service subscriptions have been installed across Zambia with the support of BGFA.



25,600

energy connections to be established



130,000

people getting access to energy



100+

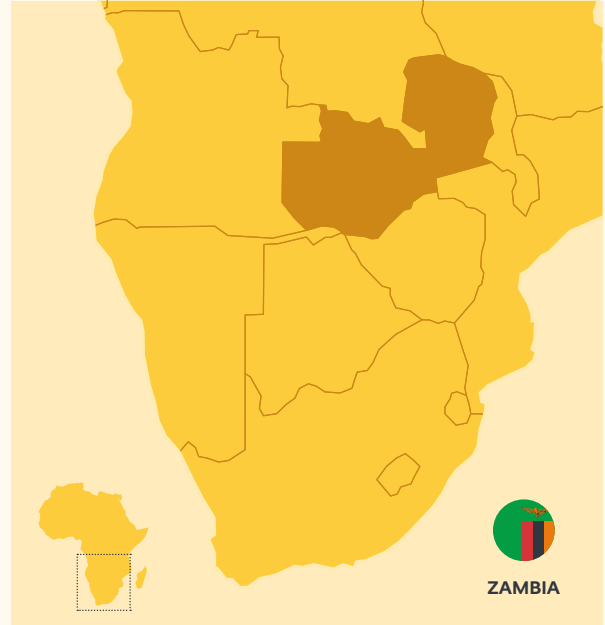
commission-based sales agents across Zambia

Zambia

Zambia is BGFA's longest established market and its off-grid sector is approaching maturity, driven in part by BGFA and its predecessor BGFZ.

The growth in the market for solar home systems is mostly attributed to the entry of PAYGO companies. The sector is still considered to have potential to absorb significant financing from BGFA and there is a conducive market environment to attract additional financing and investments. Similarly, the market for mini-grids in Zambia is in its early stages but growing fast, albeit with some regulatory uncertainties.

The funding round in Zambia targeted both solar home systems and solar mini-grids, with combined available funding of EUR 17 million. The country programme is funded by Germany and Sweden. In 2022, Zambia was BGFA's single most successful market, with five projects signed: Vitalite, RDG Collective and Engie Energy Access Zambia all provide solar home systems and some productive use solutions, and Zengamina Power and Power Corner are mini-grid companies.



SIGNED PROJECTS:

- Vitalite
- RDG Collective
- Engie Energy Access Zambia
- Zengamina Power
- Power Corner

Photo: Jason Mulikita for BGFA



Teacher in Zambia has now access to electricity 24/7 with the purchased RDG solar home system.

Institutional support in BGFA countries

Local institutional support is an important element of BGFA that aims to improve conditions for the off-grid energy service market, deploying a combination of capacity building and technical assistance, stakeholder outreach and market intelligence.

Taking the example of Zambia, the government, supported by the Beyond the Grid Fund for Zambia (BGFZ), has established an Off-Grid Energy Task Force (OGTF) that gathers stakeholders from the government, donor agencies, finance institutions and the private sector to coordinate activities, share challenges and opportunities and agree on priorities for actions to strengthen the market environment.



Photo: Jason Mulikita for BGFA

Worker at VITALITE Zambia repairing an off-grid solar home system appliance at their office in Lusaka.



The Zambian off-grid task force is being used as a model when similar institutional support is being implemented in all BGFA countries of operation.



Photo: Jason Mulikita for BGFA

First Off-Grid Task Force established in Zambia

Institutional support in BGFA countries of operation is envisioned to be modelled on the Off-Grid Energy Task Force established in Zambia when the BGFZ was initiated and work with a range of stakeholders to improve market ecosystem conditions. The Off-Grid Energy Task Force was embedded in and led by the Ministry of Energy, with secretariat services currently supported by BGFA. The Task Force gathers stakeholders from the government, donor agencies, finance and the private sector to coordinate activities, share challenges and opportunities and agree on priorities for actions to strengthen the market environment. The Task Force can also provide capacity building and technical assistance on demand.

The Off-Grid Energy Task Force continues to meet regularly and has thus far established 6 Sub-Committees on:

- Mini-Grids and Land Rights
- Consumer Affordability
- Fiscal Incentive
- Bioenergy
- Solar for health (electrification of rural health facilities)
- Finance

BGFA continues to support Zambia. During 2022, Nefco procured and contracted NIRAS to roll out institutional programmes in all BGFA countries. The main activity, which began during the second half of the year, was to mobilise and undertake a mapping to understand stakeholder positions and identify institutional capacity needs.

Two boys watching television with an off-grid connection through a solar home system appliance.



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