REEEP®
INVESTING IN CLEAN ENERGY MARKETS

Beyond the Grid Fund Africa (BGFA) - Uganda

PRIVATE SECTOR STAKEHOLDER CONSULTATION WORKSHOP

15 & 17 DECEMBER 2020

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PRODUCED WITH SUPPORT FROM Konserve Advisory Services Ltd.

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1 INTRODUCTION

1.1 BACKGROUND OF THE BEYOND THE GRID FUND FOR AFRICA

Just under 1 billion people worldwide still lack access to electricity, one of the main preconditions to prosperity growth. Despite increasingly ambitious efforts under the UN Agenda for Sustainable Development to achieve universal electrification by 2030, it is estimated that by that time nearly 600,000 people in Sub-Saharan Africa alone will still not have access to electricity, and many more will still lack access to clean cooking. Many of these people live in rural and peri-urban areas that have not been reached by the central electricity grid, and where, due to the geography and/or widely dispersed populations, expansion of the grid would be too costly and technically difficult.

Addressing this challenge, the Beyond the Grid Fund for Africa (BGFA) is an ambitious multi-year funding facility that seeks to accelerate the creation of sustainable markets for distributed and standalone off-grid energy services in rural and peri-urban areas in Sub-Saharan Africa. BGFA was set-up in 2019 on the initiative of the Swedish Government, building on the successful, award-winning pilot programme in Zambia, the Beyond the Grid Fund for Zambia (BGFZ). The facility is established and managed by the Nordic Environment Finance Corporation (NEFCO), an international financial institution focused on environmental and climate investments and designed and implemented in partnership with the Renewable Energy and Energy Efficiency Partnership (REEEP), an international multilateral partnership based in Vienna, Austria, working to accelerate market-based deployment of renewable energy and energy efficiency in developing countries.

BGFA supports, in particular, the objective of Sustainable Development Goal number 7, which aims to ensure access to affordable, reliable, sustainable modern energy for all by 2030, as well as the Paris Agreement on climate change and host country priorities.

The Three Pillars of BGFA

1. Call for Proposals

The backbone of the Beyond the Grid Fund for Africa approach is an innovative financing mechanism that offers incentives to companies to close the 'viability gap', on a per-connection basis, of the rollout and scaling up of clean energy services in areas that would otherwise not represent viable markets.

2. Platform for Market Change

When fully established, BGFA will work with a range of stakeholders in each of the target countries to improve local market conditions through a combination of capacity building and technical assistance to local energy authorities, general stakeholder outreach and market intelligence development.

3. Market Information and Analytics

BGFA has the potential to generate very valuable market intelligence, including data on customer willingness and ability to pay. To capture this intelligence, BGFA will combine detailed market analysis with real-time data on deployment of energy service subscriptions.
Once the expanded programme is under implementation, the collected information will be shared with stakeholders through the Platforms for Market Change, in order to inform investment decisions and policymaking.

Building on Success

This approach has proved highly successful – implementation of the first round of BGFZ (Zambia I) began in July 2017; the four contracted companies currently surpass their set goals (when results are aggregated) and as of January 2021 have deployed over 177,000 Energy Service Subscriptions (ESS)[1] in total; reaching around 921,000 Zambians in rural and peri-urban areas. In its first Call for Proposals (BGFA1), launched in September 2020 in Burkina Faso, Liberia and Zambia, BGFA received 84 applications for the Pre-Qualification stage. Once completed, this first financing round is expected to offer a total of EUR 30 million in results-based financing to a number of private off-grid energy service providers. The target is to generate up to 700,000 new service subscriptions and provide clean and affordable energy to more than 3.5 million people in peri-urban and rural areas in these three countries. The second, ongoing Call for Proposals was launched in Mozambique in February 2021 with a focus on micro-grid enterprises.

BGFA in Uganda

The Embassy of Sweden in Kampala will allocate results-based capital investment into market expansion made by private sector entities selected by competition in 2021. As with the other BGFA country windows, the programme will also seek to provide local institutional capacity building. Denmark, through the Ministry of Foreign Affairs, joined the BGFA programme in December 2020 with DKK 37.5 million (EUR 5 million) to support the planned Uganda expansion.

2 BGFA UGANDA – MARKET SCOPING

REEEP began the expansion to Uganda with a **Market Scoping Phase** (September 2020 to February 2021), during which the team, with the support of Konserve Advisory Services Ltd as local consultant on the ground, explored opportunities for applying the Beyond the Grid Fund for Africa approach in the Uganda market, synthesized a matrix of ongoing energy access programmes and initiatives, assessed key challenges and risks, and developed high-level scenarios for market-based actions utilising the Beyond the Grid for Africa approach.

Given the context of travel restrictions and lockdowns due to the Covid-19 pandemic, the REEEP team, with support and guidance from Konserve Advisory Services Ltd, had to engage and reach out to stakeholders principally on a remote / virtual basis.

[1] ESS: An energy service connection, provided by an Energy Service Provider to a customer, in which the customer receives electricity and/or an associated energy-based service or product on a regular, recurring basis.

REEEP, with the support of Konserve Advisory Services Ltd Advisory services, organised a (1) **virtual launch workshop** on 15 December 2021 to introduce the BGFA initiative in Uganda to all relevant stakeholders including government institutions, development agencies, NGOs, consulting firms, academia and private sector companies; the workshop was organised as an online event with a webinar format with 70 online participants (125 participants were registered), and (2) Konserve Advisory Services Ltd organised in-person **focus group discussions** specifically for representatives of the private sector (related to solar home systems, mini-grids, clean cooking fuels and improved cookstoves) at the Sheraton Kampala Hotel on 17 December 2020 with 28 participants that joined the thematic focus groups discussions.

The agenda for both the virtual launch event and the focus group discussion is available in Annex 1, and a list of participating companies and institutions for both events is available in Annex 2.

The **virtual launch workshop** was opened with welcome notes from Hon. Eng. Simon D'Ujanga, Minister of State for Energy (Ministry of Energy and Mineral Development -MEMD), Ms. Ola Hällgren (Head of Development Cooperation of Embassy of Sweden), Mr. Ulrik Jørgensen(Consular Danish Embassy) and Mr. Benon Bena (Rural Electrification Agency, REA; Manager Off-grid RE-Development). The welcome notes were followed by a presentation by Mr. Abdeel Kyezira from Konserve Advisory Services Ltd summarizing findings from the renewable energy market in Uganda and finally concluded with an overview of the BGFA programme by Mr. Andreas Zahner (Programme Director at REEEP) and an interactive round of Q&As with the webinar participants.

For the **focus groups discussions** on 17 September 2021, participants were divided into two groups – one focusing on *mini-grid developers and solar home system companies* and one group focusing on *biogas and clean cooking technologies*.

Discussions were structured across the following topics and questions:

1. Market challenges
2. Distribution models
3. Challenges faced during distribution
4. Potential solutions and way forward
5. Market opportunities
6. Changing markets dynamics
7. Gender impact related to supply and demand
8. Challenges
9. Potential solutions
10. Gender-related policy aspects

The focus group discussions are described in more detail in Chapter 3 below, and summary notes are available in Annex 3.

2.1 VIRTUAL LAUNCH WORKSHOP (15 DECEMBER 2020)

2.1.1 OPENING STATEMENTS

The event was officially opened by the Minister of State for Energy, Hon. Eng Simon D'Ujanga, who stressed the importance of off-grid energy for meeting the sustainable development goals and that the BGFA initiative is timely as it would also help promote and support the Government of Uganda's efforts to enable access to electricity.

Mrs. Ola Hällgren, Head of Development Cooperation of the Embassy of Sweden in Kampala, highlighted that this programme is the joint result of the partnership between the Embassy of Sweden, NEFCO and REEEP which aims to increase energy generation and distribution in Uganda. Mrs. Hällgren said she is looking forward to the successful completion of the market scoping phase and the deployment of energy services, as these are critical for development, poverty alleviation and social-cultural transformation. Sweden has committed up to 12M EUR that will be invested into private companies selected through a competitive process to stimulate new business models at a scale while demonstrating sustainability.

Mr. Ulrik Jørgensen, representative of the Embassy of Denmark in Kampala, stated that Demark has been a partner of Uganda for over 40 years and has supported its economic transformation. Mr. Ulrik Jørgensen expressed his excitement that Denmark will contribute to the BGFA programme aims to ensure that at least half a million people in Uganda will have access to clean energy solutions.

Mr. Benon Bena of REA also emphasised that the BGFA programme is a timely intervention as electricity access in Uganda is still very poor, although significant efforts have been undertaken to advance the energy sector to date.

Mr. Abdeel Keyezira (KONSERVE Consultings Ltd.) presented a market overview for off-grid energy in Uganda, including the main opportunities and challenges (please see presentation in Annex 4).

Andreas Zahner (REEEP) presented the experience of the Beyond the Grid Fund for Zambia and outlined the thinking and process for expanding the Beyond the Grid Fund for Africa to other countries including Uganda (please see presentation in Annex 5).

2.2 FOCUS GROUP DISCUSSIONS (17 DECEMBER 2021)

2.2.1 MINI-GRID DEVELOPERS AND SOLAR HOME SYSTEMS DISCUSSION GROUP

2.2.1.1 KEY DISCUSSION POINTS AND CONCLUSIONS

The discussion group focused on solar home systems (SHS), and related market challenges and discussed the lack of skilled labour, limited availability of funds to support local firms and lack of customer awareness.

During the conversations, two types of customers for SHS sales were outlined: walk-in clients and online clients. As for the distribution of products and equipment, participants indicated the need of local sales infrastructure/branches and technical support for a local workforce from the head office; community-based dealers; distribution points/service centres; sellers who visit clients to showcase their products; and finally, sales through institutions, NGOs and development programmes.

It was highlighted that the delivery of services is dominated by men, and there would be a need to involve more women in energy delivery. It was discussed that it might be useful to identify roles

in the industry specifically tailored to women needs, strengths and competencies. However, it was also brought forward that men still appear to possess more technical skills, and there should be an orchestrated aim to provide capacity-building tailored for women, regardless of society's defined gender roles. This could help to abandon the dominant attitude and mindsets that women are not physically strong enough for the industry, however it was also indicated that that women tend not to support fellow women.

The key barriers discussed included:

1. Significant low electricity demand especially on mini-grids and lack of customer awareness; low-cost affordable tariffs do not correspond to high development costs and that the mini-grid sites with wide/large sites with dispersed population are very difficult to establish.
2. Affordability is a key barrier; large segment of society are low income customers.
3. There is a lack of infrastructure such as telecom networks in the country.
4. Unskilled workmanship and the low number of technically trained staff available on the market, which impedes the expansion of the energy sector.
5. COVID-19 has been an unforeseen variable and has distorted the market, and companies currently struggle with the multiple negative effects of the global pandemic; there has been an increase in cost of distribution due to COVID restrictions.

2.2.1.2 RECOMMMENDATIONS FOR BGFA

Participants concluded that there is significant interest from the private sector as well as Governmental entities in the BGFA approach, as evidenced both by the number of participants and the high quality of discussions in the focus groups.

Participants highlighted the importance that BGFA is providing capital to help overcome structural challenges in the market and creating conditions for long-term sustainability and commercial investment.

Affordability (i.e. the challenge of consumers' ability to pay for high-quality energy services) and lack of awareness have been identified as key issues to successful programme implementation.

Mini-grids and SHS are expected to play a significant role in meeting Uganda's energy access targets, and there is growing potential for increased private sector involvement. The group discussions recommended that when designing BGFA programme support mechanisms, gender inclusion should be taken into account.

There is a need to support the market expansion of mini-grids for a specific period of time so that some installations could act as live demonstrations. Such demonstrations could help target both equipment venders and end users to better understand the benefits of such mini-grids for energy access, income generation and business development.

Often customers are unable to pay for energy services and equipment and incentives are important to promote the energy sector. However, as the market develops, a variety of financial instruments (beyond grants) need to be taken into account, and technical and business skill training will be needed to strengthen sustainable market development.

2.2.2 BIOGAS AND CLEAN CLEANING TECHNOLOGIES DISCUSSION GROUP

2.2.2.1 KEY DISCUSSION POINTS AND CONCLUSIONS

The discussion group comprised of 18 participants representing Biogas and Clean Cooking Technology companies.

1. Transportation and distribution of the products are still too costly, and there is a need to identify distribution channels and outlets in local communities.
2. Consumers lack product knowledge and awareness as well as faith in the product quality. In addition, Clean Cooking Technologies distributors are not well supported, and thus they have no interest in partnering with producers.
3. Failure to meet current demand due to limited access to finance in conjunction with absent fiscal policies that support biogas and clean cooking technologies.
4. Financial institutions are not familiar with the sector and are not willing to provide finance (perceived high risks).
5. Constraints for companies in the bioenergy sector include the absence of appropriate storage facilities for briquettes. Costs of acquiring facilities for packaging products are still too high for local manufacturers, and lack of proper and advanced technologies impede high product quality.
6. Lack of education, business and technical skill training is a key market barrier. There is a lack of trained professionals in the market; low salaries in the sector impede motivation and employee performance.
7. Although CCTs are prominent solutions for enhancing energy efficiency, the majority of the population is still using traditional cooking solutions. There is low awareness of the positive effects of clean cooking solutions related to energy efficiency and reduced deforestation and soil degradation. There is now a clear strategy to increase sustainability of biomass use.
8. COVID-19 is impacting sales of cooking solutions and consumption of improved cooking fuels; e.g. large institutions and schools were closed during the lockdown.
9. From a gender assessment perspective, it has been highlighted that both women and men need to be targeted with awareness campaigns. Decision-making roles between women and men need to be taken into account; women are often disadvantaged related to access to economic resources, ownership, control over property and access to finance.

2.2.2.2 RECOMMMENDATIONS FOR BGFA

The participants agreed that there is enough demand for clean cooking solutions in the market at the household level, but specifically also highlighted institutions, e.g. schools, hotels, and governmental institutions, etc. that are in need of clean and efficient cooking solutions.

Participants recommended to explore the reasons in more detail as to why previous programs similar to BGFA have not been successful in dealing with challenges in the sector.

It was recommended that skill training would be required, specifically for distributors on the ground to better understand the benefits of cooking solutions, to raise end users awareness of products that already exist in the market as well as to help financing institutions to better understand the challenges and opportunities in the market. Trainings should also help market participants in embracing new technologies such as digital marketing, e-commerce, etc.

Natural resource management activities were recommended to be considered as a key accompanying measure of any ICS/sustainable biomass programme to ensure that feedstock and fuel is wisely used and sustainably available.

Incentives were recommended not only for companies to help roll out their business model, but also companies need to think about incentive schemes for their employees and agents to boost motivation in selling clean cooking solutions.

Regarding gender, it was recommended to tailor awareness campaigns, trainings and user manuals to both women and men, consider trainings specifically for young women and for companies to establish policies which require offering equal opportunities for men and women.

ANNEX 1 AGENDA

BGFA Beyond the Grid Fund for Africa

Beyond the Grid Fund for Africa

Sweden Sverige POWER AFRICA MINISTRY OF FOREIGN AFFAIRS OF DENMARK Danida NEFCO REEEP

BEYOND THE GRID FUND FOR AFRICA (BGFA) UGANDA

BGFA Uganda Stakeholder Engagement Workshop Launch
15th December 2020, 10:00-11:15 EET
Click here: Webinar Registration Link

Agenda

Time	Item
9:50am – 10:00am	Virtual arrival/entry of registered participants
10:00am – 10:10am	General introductions
10:10am – 10:30am	Brief opening remarks • Minister of State for Energy, Eng. Simon D'Ujanga • Ministry of Energy and Mineral Development (MEMD) • Rural Electrification Agency (REA) • Government of Sweden/Swedish Embassy/SIDA • Government of Denmark/Danish Embassy/DANIDA
10:30am – 10:40am	Brief presentation on the Uganda off-grid energy market • Desk research findings
10:40am – 11:00am	Presentation and official launch – REEEP • Introduction of Beyond the Grid Fund for Africa – Uganda Chapter
11:00am – 11:15am	Q&A
11:15	End of workshop

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Beyond the Grid Fund for Africa

Sweden Sverige POWER AFRICA MINISTRY OF FOREIGN AFFAIRS OF DENMARK Danida NEFCO REEEP

BGFA Uganda, Focus Group Discussions
17th December 2020, 10:00-11:30 EET
Sheraton Kampala Hotel
Ternan Ave, Kampala, Uganda
(Room TBA)

Agenda

Invitation to a business brunch meeting as a follow-up to the launch, please register here.

Time	Item
9:45am – 10:00am	Arrival of invited participants
10:00am – 10:15am	**General introductions** • Present brief on project • Give guidance on the FGDs
10:15am – 11:00am	**Breakout into focus group discussions** • Mini-grid and energy efficiency developers • Standalone solar home system providers • Bioenergy/improved cooking technologies
11:00am – 11:30am	**Group presentations and recommendations** Modalities: This will be a 2-hour engagement meeting that will be structured for participants to interact within specific business groups in order to: - understand the participants' products, services and business models, - identify (in the view of the vendors), market opportunities and how to tap into them, - share business challenges and propose possible solutions, and - identify specific financing needs. Participants will re-converge to share the general findings of their discussions along with emerging recommendations.
The meeting will conclude with brunch	

ANNEX 2 STAKEHOLDER REGISTRANTS USING ZOOM

No.	Name	Organization
1	Konstantinos K.	REEEP
2	Abdeel K.	Konserve Advisory Services Ltd
3	Andreas Z.	REEEP
4	Stella N.	Konserve Advisory Services Ltd
5	Nyang F.	New Covenant Christian Centre
6	Richard O.	ERA
7	Laurynas V.	BrightLife
8	Andrew O.	Uganda National Bureau of Standards (UNBS)
9	Vivien P.	Tulima Solar
10	Charles S.	RESERVOIR Minds
11	Lily C.	Shenzhen Solar Run Energy Co., Ltd.
12	Peter S.	BGFA
13	Ronald S.	SolarNow
14	Olweny J.	Innovation Africa Ltd
15	Lukas G,	Act Innovative
16	Anja R.	GIZ
17	Joyce N.	USEA
18	Lais L.	Power Africa Off-grid Project
19	Jenny K.	Sida
20	Kimbowa S.	USEA/ENERGY SYSTEMS LTD
21	Laura C.	Aptech Africa Ltd
22	Ulrik J.	Royal Danish Embassy Kampala
23	Mose M.	Memd
24	Marsida R.	GIZ
25	Lou van R.	African Clean Energy
26	Fabian A.	Energy and Security Group LLC
27	Benon B.	Rural Electrification Agency
28	Scholastica A.	Ireck Technologies Limited
29	Mulindwa P.	Konserve
30	Kalyango K.	Kambasco Technologies ltd
31	Cecilia M.	Ministry of Energy and Mineral Development
32	Musiime J.	FRES UgandaLtd
33	Esther N.	UNREEEA
34	Frank Neil Y.	ANUEL ENERGY UGANDA
35	Pia H.	GIZ EnDev
36	Erin S.	REEEP
37	Tyler S.	African Clean Energy
38	James S.	OPM
39	Virginia S.	GoodFire Ltd
40	Harry O.	Greater Light Energy & Sustainable Systems
41	Harriet N.	Solar Aid Ltd/Sunnymoney Uganda
42	Joshua O.	Equatorial Power
43	Jussi A.	FinPetroGas Energy Oy Ltd
44	Lovemore S.	Power Africa
45	Allan O.	Village Power Uganda
46	Winnie G.	Uganda National Bureau of Standards

47	Joshua B. M.	Gage Investments Ltd
48	Lydia N-S	Konserve
49	Sumaya M.	Power for All
50	Michael M.	Energy Efficiency Association of Uganda
51	Apple L.	Shenzhen Solar Run Energy Co., Ltd
52	Ndikubawa	Gage Investments
53	Daniel W.	Fenix International Uganda Ltd.
54	Eseza M.	Conservation and Development Uganda Ltd (CODE Uganda)
55	Lakshmi B	UNEP-DTU Partnership
56	Roy H.	Solar Run
57	Laura T.	Potential Energy
58	Allan M,	Energy Monitoring Ltd
59	Tem T.	Redco Developers
60	Daphne A.	Embassy of Sweden, Kampala
61	Belinda M.	ELECTRIGE ENGINEERING LTD
62	Felistas C.	Tujijenge Financial Services
63	Manuel F.	Equatorial Power
64	Helen K.	GIZ
65	Eng. S.	Ministry of Energy and Mineral Development
66	Thomas W.	Renetech AB
67	Ola H.	Sida
68	Asmelash M.	BiziSol
69	Bas B.	OffGridBox
70	Andrew B.	EMBASSY OF SWEDEN KAMPALA, UGANDA
71	Muhammed M.	Ebenezer Energy Saving Stoves Limited
72	David Ebong	Clean Energy Partnership for Africa
73	Laura	GOGLA
74	Melvin	Smart Solar
75	Henry	German International Development Agency, GiZ
76	Raymond	Advanced Solar Power Limited
77	Kyamulabi	Masupa Enterprises
78	Simon	PESITHO
79	Joel	Re-Newable Hub (u) Ltd
80	Peter	Umeme Ltd
81	Nelson	American Tower Corporation
82	Oscar	USAID/Power Africa
83	Steven	Solar Run Energy
84	Wanjohi	Yok Consulting
85	Patrick	GOGLA
86	Igor	International Lifeline Fund
87	David	Bridge Gap Renewables Inc.
88	Julius	Uganda National Bureau of Standards
89	Snehar	Azuri
90	walter	www.wwaterworks.com
91	Joseph	Access to Solar Technologies Ltd
92	Noel	Powerline Solutions & Investments Ltd
93	Peace	SNV
94	William	Power for All
95	Brian	Geostrategies, LLC
96	Michael	Capital Base Ltd

97	Nakalema	Environmental Concerns & Orphanage Development Agency (ECODA)
98	Aislinn	African Clean Energy
99	Douglas	Innovex (U) ltd
100	DENIS	Centre for Research in Energy and Energy Conservation
101	Benard	Makerere University Business School
102	Livingstone	Makerere University Business School
103	John Bosco	East African Power Limited
104	Kyle	grant & co
105	Kabishanga	New Horizons Women's Education Centre
106	John	REEEP
107	Denis	EACREEE
108	Joaquin	i4SD
109	Ahimbisibwe	Restore Ecosystem Uganda
110	Charles	Zero Waste Consult
111	David	ADAPT PLUS LTD
112	Peter	SoloGrid
113	Ash	NEFCO
114	Paul	Independent
115	Noel	Powerline Solutions & Investments Ltd
116	Gloria	UNDP
117	Brian	STANBIC Bank
118	Jamie	OPM
119	Virginia	GoodFire Ltd
120	Victoria	Engie Energy Access
121	Brian	Power for All
122	Brindaban	Umda Uganda Ltd
123	John	N/A
124	Rolex	
125	Jackie	Innovex
126	Adam	FINCA UK
127	Ddibya	All We Are Non Profit

ANNEX 3 – SUMMARY NOTES FROM THE FOCUS GROUP DISCUSSIONS SUMMARIES

17 December 2020

Group one – Mini-grid and solar home systems developers

Market issues – How do your products reach your customers?

1. Walk in clients
2. Online orders and deliveries
3. Route to consumers

Distribution models

4. Branches
5. Tech support sent from the head office
6. Through community-based dealers
7. Distribution points/service centres
8. Visit clients (take the product to the consumers)
9. Through institutions, NGOs, development programmes

Challenges encountered

1. Lack of skilled labour
2. Not enough funds to support local firms
3. Lack of awareness

Gender – Consumption of products and services

10. Delivery of services dominated by men
11. Need to involve women in energy delivery
12. Policy based advocacy to engage women internationally
13. Identify roles in the industry where women could perform better
14. Identify and define women targeted competences
15. Women integration
16. Assert financing
17. Men with more technical skills
18. Targeted capacity building for women
19. Entry level tends to have more men
20. Women seem to be better at roles like managers and sales
21. Society has defined gender roles
22. Attitude and mind-set that women are not physically strong enough for the industry
23. Women tend not to support fellow women

Way forward

1. Encourage women to support each other
2. Build a culture that empowers women
3. Consider affirmative actions aimed at driving women empowerment
4. Create awareness for different opportunities

Market drivers

24. Social impact
25. Understanding what the customer needs
26. Price range
27. Television/Tech
28. Develop fast moving products
29. Develop technology that can track creditors, customers, location etc
30. Product type and quality
31. Location of the supplier
32. Put customer's need into consideration before offering a solution
33. Low income for most customers affecting their ability to buy products
34. Environmental issues
35. Social services
36. Productivity
37. Creation of employment
38. Affordability

Incentives

1. Need for a specific period
2. Act as demos
3. Target both venders and end users
4. Depends on the target of the grant
5. Incentive necessary due to inability by customers to pay for products
6. Promote the energy sector
7. Target sustainability by building capacity in communities
8. Support start ups
9. Support capacity building
10. Grant should also target after sales services

Barriers/ challenges

39. Low demand especially on mini-grids
40. Low-cost tariffs vs. development costs (mini-grids)
41. Sites with wide/large spaces very difficult to connect (mini-grids)
42. Covid-19 impact
43. Low-income earners
44. Companies struggling with the effects of covid
45. High demand and affordability still a barrier
46. Infrastructure such as telecom networks
47. Internal issues such as unskilled workmanship
48. Increase in cost of distribution due to covid restrictions
49. Few technical stuff available on the market
50. Demo expenses
51. Luck of awareness

Group two – Bio-gas and clean cooking technologies

Market challenges

52. Transportation and distribution of the products still too costly
53. Consumers lack product knowledge and awareness
54. Clean cooking technologies distributors are not well supported so they are not very interested in partnering with producers
55. Need to identify distribution outlets in local communities
56. Lack of faith in product quality
57. There are no proper storage facilities for briquettes

58. Cost of acquiring packaging of products still too high for local manufacturers
59. Failure to meet current demand due to limited funds
60. Covid impact, some institutes such as schools that consume cooking products still closed affecting consumption. Some institutions have been written as bad debts
61. Lack of trained professionals in the sector
62. No fiscal policies in place that support bio-gas and clean cooking technologies
63. Lack of proper and advanced technologies needed to ensure product quality
64. Employees in the sector lack interest in the work they do which affects their performance
65. No motivation plan in place for workers. Low salaries leading to no motivation in promoting the products
66. Challenge in obtaining credit facilities as a lot of financial institutions are not willing to risk support the sector with credit
67. There is no sustainable plan to ensure replenishment of raw materials such as trees

Distribution models

1. Use of volunteers in local communities
2. Through community initiatives such as teen/young mothers associations
3. Supermarkets
4. Taking the product straight to the consumer

Challenges faced during distribution

1. Distributors demand for high discounts that don't help the manufacturers to break even
2. Distributors also prefer credit which affects the operations of developers
3. Lack of product knowledge

Way forward

1. Need to change the perception of unsupportive distributors by educating them about the cost benefits of the products
2. Train end users on existing and new products/ create a lot of product awareness.
3. Need to involve and educate credit facilities about the opportunities in the sector
4. Need to identify sustainable markets for clean cooking products
5. Need to establish why previous related funds haven't been successful
6. Support activities like tree planting to ensure continuous availability of raw materials
7. Categorise incentives in terms of the quality and price of the product
8. Equip more workers with the necessary skills.
9. Introduce employee benefits to boost morale and motivation
10. Need to embrace new technologies such as digital marketing, e-commerce etc

Market opportunities

68. Big institutions like schools/hotels in need of clean and efficient cooking solutions
69. Homes
70. Organisations

Changing market dynamics

1. Covid impact

Gender – Impact of gender on the demand and supply of the product

1. Both genders need to be involved in product awareness
2. There is a trend of men paying for the product and women using the products
3. Women tend to be final decision makes and therefore should be more involved
4. Women are still very underrepresented in the sector despite being the end users of the products

Challenges

1. The sector still requires a lot of physical strength which affects the participation of women
2. Women still are dependent on men for financial support which limits their decision making
3. The industry is still a very expensive venture thus limiting female participation
4. Lack of available financing opportunities for women
5. Available funds tend to favour men over women
6. Negative attitudes by women in regard to gender roles

Way forward

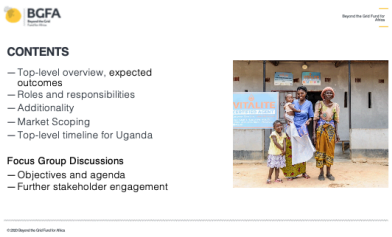
1. Create product awareness for end users
2. Develop end user manuals in local languages
3. Encourage female engagement
4. Identify and support female-based initiatives that are related to the sector in local communities
5. Involve young and teen mothers
6. Need for government to support training programmes for women
7. Need to develop clear company policies on gender

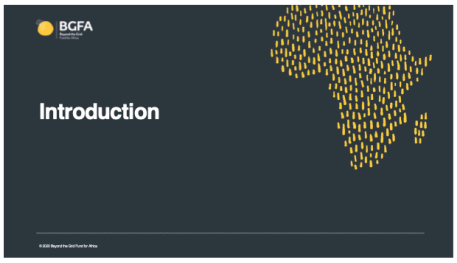
Policy on gender

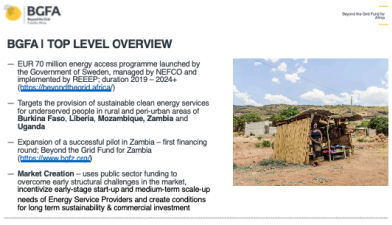
1. Only 3 participants out of 13 have a policy on gender in their companies. The rest lack a policy

ANNEX 4 - PRESENTATION OF THE BEYOND THE GRID FUND AFRICA BGFA

The following presentation can be accessed here.







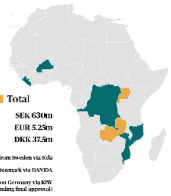
BGFA

BGFA I TOP LEVEL OVERVIEW Con't

- Expansion to new markets: dialog with interested countries on-going
- Expansion to new donors: Germany via KfW to join BGFA in Zambia, Denmark to join BGFA in Uganda and dialogue with other interested donors ongoing
- Results-based financing approach: financing deployed on grant-basis as "free-equity" across multi-year project lifecycles; subject to rigorous monitoring and verification
- Energy service providers expected to generate / demonstrate significant leverage
  - equity & own funds (contributions in kind)
  - co-funding (commercial and DFI sources)

BGFA

BGFA I FIVE COUNTRIES



Total

BGFA SEK 630m
EUR 5.25m
DKK 37.5m

SEK funding from Sweden via Sida
DKK funding from Denmark via DANIDA
EUR funding from Germany via KfW (pending final approval)

Early Market

Mozambique	SEK 100m
Liberia	SEK 100m
Burkina Faso	SEK 100m
Democratic Rep. Congo	Exploration

Intermediary Market

Zambia	SEK 200m EUR 5.25m
Uganda	SEK 130m DKK 37.5m
Rwanda	Exploration

BGFA

NORDIC ENVIRONMENT FINANCE CORPORATION (NEFCO)

- International financial institution established by the Nordic countries in 1990
- Financing environmental and green growth projects
- NEFCO is the Facility Manager of BGFA

NEFCO

BGFA

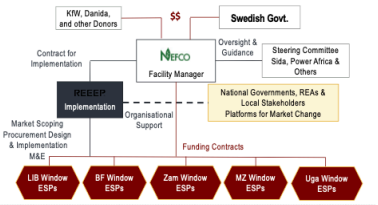
RENEWABLE ENERGY & ENERGY EFFICIENCY PARTNERSHIP (REEEP)

- International multilateral partnership
- Mandate: accelerate market readiness for renewable energy and energy efficient solutions in low income and emerging countries
- REEEP is Implementation Manager of BGFA

REEEP®
INVESTING IN CLEAN ENERGY MARKETS

BGFA

INDICATIVE ORGANISATIONAL OVERVIEW



BGFA

BGFA I TOP LEVEL OVERVIEW Con't

- BGFA is a funding approach designed to support and promote private sector. Funding flows to selected / awarded companies
- Close engagement with Ministry of Energy, REA and ERA and other key actors is sought to ensure alignment with policy and support for government objectives
- Opportunities for collaboration
  - Input to market scoping and design of programme / financing instruments
  - Cooperation in verification of connections and achieved level of energy access
  - Targeted capacity building

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BGFA I THREE PILLARS

INCENTIVES AND PROCUREMENT

New affordable, sustainable, high-quality modern energy services

PLATFORM FOR MARKET CHANGE

Off-grid Energy Taskforce:

PP engagement for exploring market barriers and issues

MARKET INFORMATION AND ANALYTICS

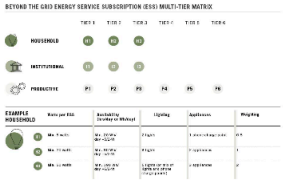
EDISON and MEL provide real-time evidence and market data

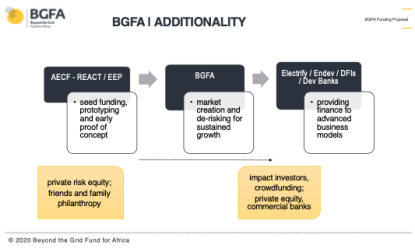
BGFA

BGFA I PROCUREMENT TOOLS

Example from the pilot in Zambia, BGFZ

BEYOND THE GRID ENERGY SERVICE SUBSCRIPTION (ESS) MULTI-TIER MATRIX




BGFA
BGFA I ADDITIONALITY
AECF - REACT / EEP
• seed funding, prototyping and early proof of concept
BGFA
• market creation and de-risking for sustained growth
Electrify / Endev / DFIs / Dev Banks
• providing finance to advanced business models
private risk equity; friends and family philanthropy
impact investors, crowdfunding; private equity, commercial banks
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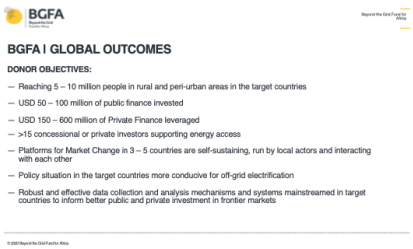
BGFA
BGFA I GLOBAL OUTCOMES
DONOR OBJECTIVES:
— Reaching 5 – 10 million people in rural and peri-urban areas in the target countries
— USD 50 – 100 million of public finance invested
— USD 150 – 600 million of Private Finance leveraged
— >15 concessional or private investors supporting energy access
— Platforms for Market Change in 3 – 5 countries are self-sustaining, run by local actors and interacting with each other
— Policy situation in the target countries more conducive for off-grid electrification
— Robust and effective data collection and analysis mechanisms and systems mainstreamed in target countries to inform better public and private investment in frontier markets


BGFA
BGFA IN UGANDA


BGFA
BGFA I IN UGANDA
— Total country budget SEK 130 million / USD 15 million; DANIDA committed additional co-funding: DKK 37.5 million
— Market Scoping supported by local consultant (Konserve Advisory Services) in Kampala
— Cooperation & Coordination with Energy Access Initiatives in Uganda to ensure additionality and synergies
— Dedicated BGFA Country Manager in 2021 / 2022

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BGFA I MARKET SCOPING

The following market sectors and aspects are addressed:

- Solar home systems (SHS / household solar)
- Mini-grids
- Bio-energy and improved cooking
- Remote areas and affordability
- Productive assets
- Energy efficiency (EE)
- Gender

BGFA

BGFA Funding Proposal

DANIDA Job Creation Agenda

- Danish funding requirement to include an off grid job creation and skills development component into BGFA contribution
- Specific budget of DKK 5 million (EUR 670 000) + Swedish contribution TBC
- OPML consultants (together with CREEC and BoP Innovation Centre) engaged to design a sub-programme for job creation / skills development
- Proposal on sub-programme in line with consideration of the BGFA market scoping and implementation plan

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Beyond the Grid Fund for Africa

BGFA I TENTATIVE TIMELINE

- Q3 2020 – Q1 2021 - Market Scoping
- Dec 2020 – Focus Group Discussions
- Q1/Q2 2021 - Finalisation of recommendations to BGFA Steering Committee for country funding windows & approaches
- Q2 2021 - Detailed Programme & Procurement Design
- Q2 2021 - Launch of Pre-qualification stage (PQ)
- Q1/Q2 2022 - First disbursements

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Beyond the Grid Fund for Africa

BGFA I Focus Group Discussions (17 December 2020)

OBJECTIVE: To bring together stakeholders from the private sector and other partners to

- discuss the scope, opportunities and challenges of a funding round in Uganda under the new BGFA framework
- inform the design of the funding round
- ensure transparency, fairness to all and wide participation

Exploring the state of the market on solar homes systems, mini-grids and improved cook stoves / clean fuels

- Opportunities and barriers to growth
- Specific financing needs

Discussion group approach, based on positive experiences in 2019 in preparation of the programmes in other BGFA markets.

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FOCUS GROUPS REGISTRATION

Interested to join?

Focus groups discussions will take place on the 17th December 2020 **10:00-11:30 (local time)** at the Sheraton Kamplala Hotel.
Should you be interested in participating, please use the dedicated registration form. This is an iinvitation only business brunch meeting as a follow-up to the launch.

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BGFA I FURTHER PRIVATE SECTOR ENGAGEMENT

- REEEP & KONSERVE will be available for separate meetings with any private sector stakeholders who would like the opportunity of a one-on-one meeting.
- Registration for meetings will be made available on the BGFA website
- For interested parties not in Kampala or not available on for the Focus Group Discussions, we will make available a limited number of slots for Skype meetings in the weeks following the focus groups.
- For reasons of due process and transparency, at this stage no further information can be provided on the procurement, including in one-on-one meetings.
- All interested parties will be offered equal access to the REEEP / KONSERVE team (e.g. one-on-one meeting over Skype).
- Throughout the workshop series and one-on-one meetings, REEEP will collect questions about BGFA from private sector stakeholders and feed these into a comprehensive Q&A document that will be made available on our website.

BGFA

BGFA I PRINCIPAL CONTACTS

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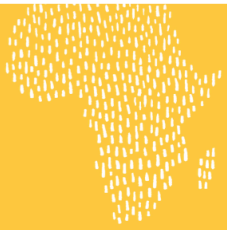
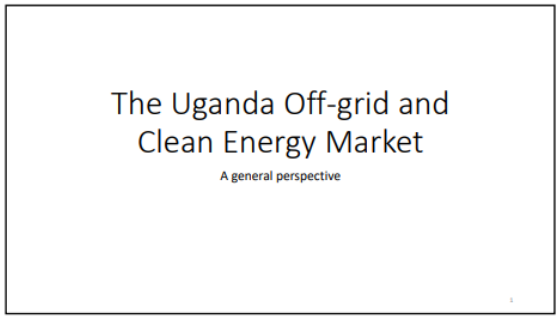
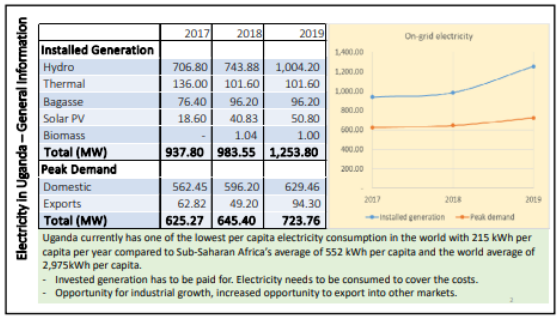


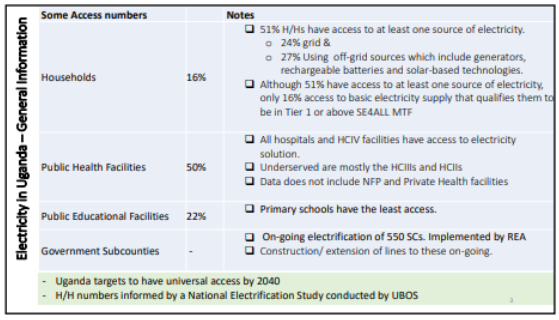
ANNEX 5 – UGANDA – OFF-GRID ENERGY MARKET ANALYSIS OVERVIEW (KONSERVE CONSULTING LTD)

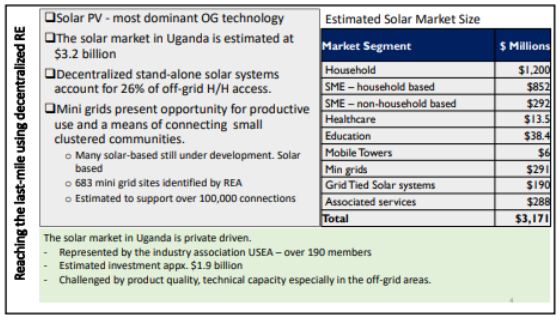
The Uganda Off-grid and Clean Energy Market brief – Abdeel Kyezira



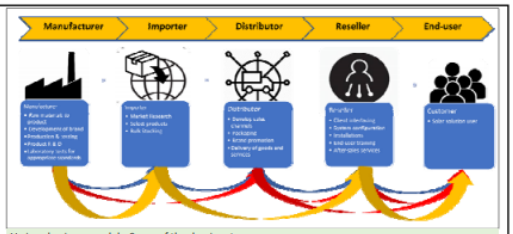


	2017	2018	2019
Installed Generation			
Hydro	706.80	743.88	1,004.20
Thermal	136.00	101.60	101.60
Bagasse	76.40	96.20	96.20
Solar PV	18.60	40.83	50.80
Biomass	-	1.04	1.00
Total (MW)	**937.80**	**983.55**	**1,253.80**
Peak Demand			
Domestic	562.45	596.20	629.46
Exports	62.82	49.20	94.30
Total (MW)	**625.27**	**645.40**	**723.76**





Solar Supply and Value Chain



Various business models. Some of the dominant ones:
- Vertically integrated companies that offer branded PAYG solutions with own distribution networks.
- System integrator firms offering tailored component based solutions.
- Traders who basically import/ stock and sell to installers and end-users.
- Project developers.

Cooking Energy in Uganda

Fuels
- ❑Over 85% use unprocessed biomass
- ❑13% use charcoal mainly in urban and peri-urban
- ❑0.5% or less for LPG & kerosene each
- ❑0.8% is a mix of fuels and some electricity.

Cooking technologies
- ❑3-stone/open fire stoves used by 60% households
- ❑Improved cook stoves used by 39% households
- ❑Kerosene
- ❑Clean fuel stoves (electric, LPG and biogas)

Cooking Technology

3-Stone/ open fire		Improved Cook Stove		Clean Fuel Stove		Kerosene Stove	
Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
28.7%	72.1%	68.1%	27.5%	23.0%	0.2%	0.9%	0.2%

Source of info:
- Global Alliance for Clean Cook stoves (GACC, 2017)
- UBOS

Fuel used

Collected Wood		Purchased Wood		Charcoal		LPG/ Gas		Kerosene		Electric		Others	
Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
25.8%	76.8%	8.7%	9.1%	62.3%	13.6%	1.8%	0.1%	0.9%	0.2%	0.5%	0.1%	0.0%	0.2%

Demand for clean cooking technologies

- ❑The demand for portable improved cook stoves is estimated at over 1,200,000 per annum.
- ❑ Appx. 10% access clean energy for cooking.
- ❑Less than 5% uptake of clean cooking technologies and fuels in Uganda.
- ❑From 2014 to 2018, Uganda was categorized under the 20 countries that accounted for more than 80% of the global population without access to clean cooking fuel.

Source of info:
- ESMAP reports, 2015, 2019
- SNV report, 2014]
- SDG7 general report 2020

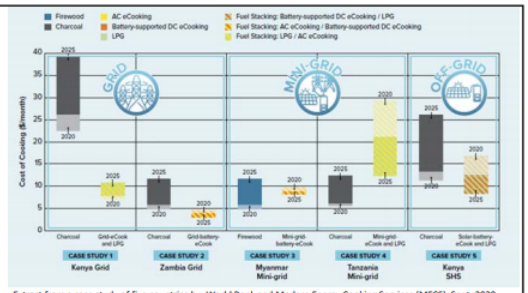
- Market dominated by charcoal stoves sold to urban and peri-urban consumers,
- A number of local manufacturers of mainly charcoal stoves, with a small number of woodstoves produced on demand.
- About 30,000 charcoal stoves & about of 300 wood stoves produced every month.
- A few imported products.

Opportunity for electric cooking

Emerging electric cooking technologies

- ❑Highly efficient electric pressure cooker (EPC)
  - Most energy-efficient appliance for cooking the most energy-intensive foods.
- ❑Transformative low AC powered electricity and battery-supported DC cooking devices
  - Easily applicable on weak grids, mini-grids, and stand-alone systems.
- ❑ Relatively low power consumption.
  - Good for the environmental.
- ❑ Falling battery and PV technology costs making electric cooking using RE system feasible.

Opportunity for electric cooking



Extract from a case study of five countries by: World Bank and Modern Energy Cooking Services (MECS), Sept, 2020

Challenges in the Clean Energy Sector

- ❑ Consumer willingness to pay
  - ○ Relatively high cost of clean cooking technologies and equipment relative to traditional dominant biomass.
- ❑ Access to finance
  - ○ Consumer & vendor financing schemes
- ❑ Product Quality
- ❑ Limitation in skills.
- ❑ Improved local production/ manufacture to scale.
- ❑ Unreliable supply of clean energy technologies and fuels.
- ❑ Enabling environment
  - ○ Fiscal policies
  - ○ Taxes
  - ○ Codes and standards
  - ○ Licensing Procedures
- ❑ Awareness

ANNEX 6 – EVENT PHOTOS

The event of the Focus Group Discussions took place on 17th December 2020 in Kampala Sheraton Hotel.


BEYOND THE GRID FUND
FOR AFRICA


BEYOND THE GRID FUND
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