Finance Mechanisms, Opportunities, and Constraints for Financing Private Sector Investment in Renewable Energy Access in Uganda.

An Environmental Alert Policy Brief, September 2019.

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This policy brief is an output from a study commissioned by Environmental Alert with financial support from Norad within the framework of the project titled, ***'Increasing access to sustainable and renewable energy alternatives in the AlbertineGraben'*** that is implemented by WWF-Uganda Country Office."

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Acknowledgements

Environmental Alert[1] acknowledges the financial support from Norad through WWF-UCO as the major funder to the research and production of this policy report on Financing Mechanisms for Private Sector Investment in Renewable Energy Access in Uganda. We want to thank all respondents for accepting to participate in the study through interviews and validation workshop despite their busy schedules.

Also, the efforts and inputs by the technical team at Environmental Alert, namely: *Dr. Joshua Zake (Ph.D.), Ms. Racheal Nalule, Ms. Ephrance Nakiyingi, Mr. Jolly Kayita, Mr. Arafa Kamoga, and Mr. Stephen Oundo* is commended and appreciated. Further, the efforts and support Mr. Daniel Lukwago and Mr. Robert Mugambwa of Nonner Consults, and the CSOs and Networks engaged in renewable energy sub-sector in Uganda are appreciated in the production of this policy brief. We also thank all the participants that were involved in the process of validation and compilation of this brief.

[1] Further information about Environmental Alert is available in Box 1.

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List of the Abbreviations

CBA	Commercial Bank of Africa
CDM	Clean Development Mechanism
CERs	Certified Emissions Reductions
DFID	Department for International Development
DFIs	Development Finance Institutions
DPs	Development Partners
DTB	Diamond Trust Bank
EA	Environmental Alert
ERA	Electricity Regulatory Authority
EU	European Union
GCF	Green Climate Fund
GEF	Global Environment Facility
GETFiT	Global Energy Transfer for Feed-in-Tariff
GIZ	German Agency for International Cooperation
GoU	Government of Uganda
KIIs	Key Informant Interviews
MDIs	Microfinance Deposit-Taking Institution
MEMD	Ministry of Energy and Mineral Development
MFIs	Microfinance Institutions
MoFPED	Ministry of Finance, Planning, and Economic Development
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for Development Cooperation
RE	Renewable Energy
REA	Rural Electrification Agency
REFIT	Renewable Energy Feed-in Tariff
RESP	Rural Electrification Strategy and Plan
RET	Renewable Energy Technologies
SIDA	Swedish International Development and Cooperation Agency
SME	Small and Medium Enterprises
UDB	Uganda Development Bank
UECCC	Uganda Energy Credit Capitalization Company
UNCDF	United Nations Development Fund
UNREEA	Uganda National Renewable Energy and Energy Efficiency Alliance
USAID	United States Agency for International Development
WWF-UCO	World Wide Fund-Uganda Country Office

1.0 Introduction

This policy brief presents key recommendations for increasing financing for private sector investment in renewable energy access in Uganda. The policy brief was compiled through a review of the study report on, '*Financing Mechanisms for Private Sector Investment in Renewable Energy Access in Uganda*,' conducted by Environmental Alert in partnership with WWF-UCO and with financial support from Norad. The policy brief presents targeted key practical policy and practices recommendations which are suggested for implementation by key stakeholders with an overall target of increasing financing for private sector investment in renewable energy access in Uganda.

The study employed both quantitative and qualitative approaches – mainly making use of review of relevant publications, and key informant interviews (KIIs) with over 21 institutions at the national level. A validation workshop was held on 23rd August 2019 with selected stakeholders, where the research team presented the draft preliminary findings, conclusions and recommendations and facilitated discussion among the participating stakeholders around them.

2.0 Background and Rationale

The Government of Uganda made domestic and international commitments to increase access to modern energy services to all Ugandans through the Vision 2040, National Development Plan II, and Sustainable Energy for All (SE4ALL) Action Agenda. In the National Development Plans II, government targets government aims to increase overall access to electricity to 30% and per capita consumption to 584 kWh by 2020 (Republic of Uganda, 2015). Under the SE4ALL Action Agenda, Uganda targets to double the share of renewable energy in the energy mix by 2030 (National Planning Authority, 2015).

The abundance of renewable energy resources presents a great opportunity for Uganda to ensure energy mix by investing in all forms such as solar, geothermal, biogas, efficient biomass systems, among others.

However, until now, Uganda has found it challenging to utilize many of these renewable energy resources and to ensure energy mix to accelerate energy access. Despite the recent efforts by the government to increase access to electricity by all Ugandans, more than two-thirds of the population lack access to electricity. Uganda is among countries with the lowest electricity access rate, at only 19%. The rural electricity access rate is only 19%, with 93% of the population relying on biomass for energy (USAID, 2019). Increasing access to electricity will require a sharp increase in energy access investments. Since public funds are limited, the necessary investments cannot be made by the government alone. Therefore, the mobilization of private investment and finance is crucial.

> *Box 1. Definition of Renewable Energy*
> According to the Renewable Energy Policy (2007), modern renewable energy means renewable energy resources that are transformed into modern energy services like electricity, which can be generated from water power, wind power, solar energy, geothermal energy and biomass cogeneration.

Studies by Environmental Alert in 2018 and Uganda Renewable Energy and Energy Efficiency Alliance (UNREEEA) in 2017 found limited access to finance as among the key challenges the private sector faces in investing in renewable energy. Private sector investment in renewable energy projects in Uganda is, however, still limited as their bankability is considered low and financial institutions often lack market awareness. Thus, Environment Alert undertook this study to examine the current finance mechanisms for private sector investment in renewable energy access in Uganda.

3.0 Key findings

3.1 Private sector Actors in Renewable Energy in Uganda
In 1999, the Government of Uganda undertook extensive reforms which included the unbundling of the Uganda Electricity Board and increasing the role of the private sector in electricity generation, and distribution. The private sector actors in the RE sub-sector can be categorized as micro, small, medium, and large-scale. These work in different ways, and the kind of markets and products they provide are unique. Some are at an early stage (start-ups), growth stage, and mature stage. Those that are early stage usually raise their capital through equity (i.e., Self-investment, friends & family, NGOs). Those at growth stage usually raise their capital through quasi-equity (i.e., Venture capitalists). While those at the mature stage can raise their capital through debt from financial institutions.

3.2 Available Financing Opportunities for the Private Sector
There is a wide range of financing mechanism for private sector investment in renewable energy technologies (RETs). These include:

a. *Government:* This is mainly through the:
- *Uganda Energy Credit Capitalization Company (UECCC)*, which offer products such as Credit support facility (CSF), Solar Loan Programme, Working Capital Facility for Solar Companies, Connection Loan Programme for On-grid Connections, Domestic Biogas Loan Programme, and Transaction Advisory Services and other early-stage support, among others (Ayiekoh, D. 2016);
- *Uganda Development Bank (UDB)* with various products such as project finance, trade finance, equity, and quasi-equity;

- *Uganda Development Corporation (UDC)* which is the government vehicle for investment in strategic sectors of the economy in partnership with the private sector;
- *Grants, rebates and fiscal incentives* such as Renewable Energy Feed-in Tariff (REFIT), Energy Rebates under ERA, and Tax incentives, i.e. tax credits to RE generators, or VAT exemptions.

b. *Development Partners*: Major Development Partners (DPs) providing funding to the private sector investment in renewable energy include DFID, EU, Norway, China, USAID, SIDA, UNCDF, and KfW. Development Partners provide funding mainly through: i) Grant-funded investments such as Global Energy Transfer for Feed-in-Tariff (GET FiT); ii) Risk sharing and blended finance through Guarantees such as crowd funding, results-based financing (RBF), and Challenge funds; and iii) Public-Private Development Partnership (PPDP); among others.

c. *Venture Capital, Private Equity, and Funds:* Several private equity and impact investors can provide funding to the private sector investment in renewable energy. Some of these include: Response Ability, ACUMEN, Energy Access Ventures, Alphamundi, Sunfunder, Root capital, Norfund, Novastar, Shell Foundation, Phillips Lighting, Grofin, the Abraaj Group, Global Leap, Africa Renewable Energy Fund , Arch Africa Renewable Power Fund, DI Frontier, Evolution II, DSI frontiers, Frontier II, AECF, Engie, among others.

d. *Development Finance Institutions (DFIs):* Major DFIs include World Bank (IDA, IFC, and MIGA), Africa Development Bank, East African Development Bank, and Proparco, among others. DFIs provide funding to assist in financial de-risking of private-sector lending. Aside from providing concessional debt, DFIs help build the capacity of local financing institutions by passing on their experience through the preparation and analysis of technical and financial documents for RE projects.

e. *Local Financial Institutions:* Several local financial institutions provide funding to the private sector investment in renewable energy. Among these are Centenary Bank, Post Bank, Finance Trust Bank, Pride Micro Finance, Stanbic Bank, Equity Bank, Exim Bank, Commercial Bank of Africa (CBA), Diamond Trust Bank (DTB), Kenya Commercial Bank (KCB), Barclays Bank. These offer financing through Corporate lending, Project finance (or "limited recourse" finance), Subordinated Debt (Mezzanine Finance), Refinancing, and Asset-backed (i.e., Asset-backed securities) lending.

f. Other sources: These include The Currency Exchange Fund (TCX); Insurance; Carbon financing such Global Environment Facility (GEF), Climate Investment Funds (GIF), and Green Climate Fund (GCF); and small scale project financing (i.e., Aggregation).

3.3 Procedures Required by the Private Sector to Obtain the Various Forms of Financing

The procedures required by the private sector to obtain the various forms of financing depends on the sources, and these are:

a. *Government.* The procedures for accessing funding from UECCC are set by Participating Financial Institutions (PFIs). The UDB conditions include among others: collateral which could be fixed assets, fixed deposits, First-class bank guarantees, GoU bonds; social-economic impact; addresses issues of environment and social risk; proven capacity to implement the project; and well-developed sustainability plan.

b. Development Partners. Conditions DPs (such as UNCDF) include clear administrative and functional governance structures like a Board, and administration; Audited books accounts; Business plan; Ability to absorb the facility and payback; and Social Impact of the investment; among others.

c. Green Climate Fund (GCF). The private sector company has to respond to the request for Proposals, and the company has to be accredited.
d. *DFIs.* Do not lend directly to micro, small, and medium enterprises or individual entrepreneurs, but many of their clients are financial intermediaries that on-lend to smaller businesses.
e. *Local Financial Institutions.* Ability and integrity of the borrower, present and potential profitability of the business; and the level of capital that the owner has in the business; among others.
f. *Venture Capital, Private Equity, and Funds.* Sufficiency of the project cash flows for making the expected (or a reasonable) profit for the equity investor.

3.4 Opportunities for the Financing of Private Sector Investment

Several opportunities exist for financing for private sector investment in RE, some of them include:

a. *Supportive policy and regulatory framework*. Elaborated through the Electricity Act 1999; Energy Policy 2002, Renewable Energy Policy 2007, Rural Electrification Strategy and Plan (RESP) 2013-2022, Biomass Energy Strategy, 2013, Scaling-Up Renewable Energy Programme Investment Plan, and Energy Efficiency Strategy for 2010-2020.

b. *Fiscal incentives*. Some of the fiscal incentives in the RE sub-sector include i) Renewable Energy Feed-in Tariff (REFIT) designed to provide price certainty to renewable energy generators; ii) Tax incentives under the Income-tax Act and VAT Act, and iii) Concessions, i.e. to UMEME and ESKOM.

c. *Funding through Uganda Energy Credit Capitalization Company* with subsidized funding provided through PFIs to enable them to offer lower interest rates on the RE loans they provide to the private sector.

d. Supportive Institutions such as MoFPED, MEMD, ERA, REA, Bank of Uganda, and Capital Markets Authority among others who are mandated to develop and implement the law and policy frameworks for financing for private sector investments.

e. *International financing opportunities*. These financing opportunities can be accessed through: i) Feasibility study funding opportunities from, i.e. Belgian Investment Organization (BIO), the Nordic Project Fund (NOPEF), the Norwegian Development Agency (NORAD); ii) Debt or equity (i.e., mezzanine finance, corporate finance, project finance, venture capital, and dedicated funds); iii) Grants; iv) Climate finance financing.

f. *Domestic financial institutions*. Several financial institutions are offering loans for private sector investments in RE. Among the key ones are CBA, DTB, KCB, Centenary Bank, Barclays Bank Uganda, Stanbic Bank Uganda, Finance Trust Bank, and Post Bank Uganda.

3.5 Constraints limiting financing of private sector investment

There are several constraints at both international and domestic levels limiting financing of private sector investment in RE in Uganda; some of them include:

a. *International level*: i) Many RE projects are too small for mainstream investors, banks, or even DFIs; ii) higher risk, and lower financial return of many RE investments; iii) Uncertainties over Carbon Financing especially sale of Certified Emissions Reductions (CERs); and iv) Foreign exchange risks, among others.

b. *Domestic level:* i) underdeveloped financial markets and inappropriate financing terms and conditions for RE projects; ii) Inadequate long-term, Equity, and Project Financing; iii) Limited awareness of energy financing opportunities for instance only 65% in Kampala and 85% upcountry of companies did not know any relevant upcoming funding/financing opportunities in Uganda (UNREEEA, 2017); iv) High and uncertain project development costs; v) Lack of well-defined bankable projects; vi) Poor credit profile and financial records; vii) Unclear taxation and subsidies; viii) Low RET Sales; and ix) Fragmented funding landscape and a scattergun approach to private sector support; among others.

4.0 Conclusions and Recommendations

4.1 Conclusions

Government of Uganda has made domestic and international commitments to increase access to modern energy services to all Ugandans. The abundance of renewable energy resources presents a great opportunity for Uganda to ensure energy mix by investing in all forms of renewable energy through the private sector. However, there are various barriers which hinder the private sector in Uganda from accessing finance. Some of these include underdeveloped financial markets; inappropriate financing terms and conditions, limited long-term financing, limited awareness of energy financing opportunities, and few well-defined bankable projects.

4.2 Recommendations

In line with the constraints discussed above that are limiting financing private sector investment in renewable energy in Uganda, we propose the following recommendations.

Table 1: Policy and practice recommendations.

Key Constraint	Recommendations
i) Underdeveloped financial markets and inappropriate financing terms and conditions for RE projects. Most local financial institutions have limited awareness and interest in lending to RE projects in the context of their wider loan product since they view RET and products as having high levels of risk.	a. MoFPED needs to work with the Bank of Uganda, DPs, and financial institutions to simplify lending requirements and repayment process for RE projects, i.e. use of vendor lending, combining grants with concessional loans, among others. b. Government through Bank of Uganda needs to establish an innovation fund, linked to the renewable energy strategy to provide access to finance for entrepreneurs and local businesses. c. The UECCC needs to provide more incentives for more financial institutions, especially MDIs and MFIs, to participate in the scheme since they are better suited to delivering RE credit on a sustainable basis to SMEs. d. Financial Institutions should train their loans officers on different RET products and their benefits. This will make them more confident in promoting financial products to fund purchases of RET technologies.
ii) Limited awareness of energy financing opportunities. Most private sector actors in the RE often are unaware of the available finding. A study by UNREEEA in 2017) found that over 65% in Kampala and 85% upcountry did not know any relevant upcoming funding/financing opportunities in Uganda.	a. UECCC needs to raise awareness of on-lending facilities for RE projects among market participants through developing marketing materials and organizing promotional events. b. MoFPED needs to undertake a comprehensive review of the performance of the UECCC towards financing the private sector to ascertain whether it's meeting the set objectives. c. PFIs should increase awareness of the private sector about the RE financing especially from UECCC through extensive dissemination of information on the scheme through the use of media (radio and TV talk shows) and other appropriate communication channels
iii) Lack of well-defined bankable projects. Funders are looking for proven business models and well-developed business plans. However, a study by UNREEEA in 2017, found that At least 63% in Kampala and 78% upcountry of the companies either have no previous experience writing funding proposals or have failed.	a. Financial Institutions should build the capacity of small scale borrowers; teach them how to write bankable proposals and give them financial literacy training sessions to enable them access and effectively utilize borrowed funds. b. The associations representing the different actors in the RE sub-sector should build the capacity of their members to improve their business operations through training and advisory, establish market and financial linkages and carry out the necessary policy research and advocacy.
iv) Uncertainties over Carbon Financing. The sale of CERs through CDM is a widely recognized source of revenue for RE projects in developing countries. However, there are significant uncertainties over the timing and amounts of revenues from the sale of CERs (World Bank, 2013).	a. Private sector actors should build their capacity to solicit for climate finance (such as GCF) to finance RE projects. The GCF's Private Sector Facility could be used to create a risk mitigation facility dedicated to supporting RE projects. b. Government and DPs need to build the capacity of private sector players to enable them access to climate finance.

v) Unclear taxation and subsidies. Most tax and subsidy regimes favor large-scale electricity generation rather than small-scale RE projects. Also, there are high levels of ambiguity on the VAT exemptions and inconsistent application of import duties.	a. MoFPED should put in place a stable and predictable taxation regime for the RE sub-sector, for instance reviewing the VAT regulations as far as the exemption of developers as well as providing uniform incentives for all RETs including cookstoves.
vi) Advocacy by Environmental Alert and partners	a. Advocate for increased private sector investments in off-grid power systems for purposes of breaking up the binding constraints towards energy access for all. b. Advocate for increased access to information on RE loans especially under the UECCC and financial institutions. Increased access to information on RE will require undertaking a study to review the performance of the UECCC towards financing the private sector to ascertain whether it's meeting the set objectives. c. Advocate for the government to establish an innovation fund linked to the renewable energy strategy to provide access to finance for entrepreneurs and local businesses.

5.0 References

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Box 1. About Environmental Alert

Environmental Alert (EA) was founded in 1988 and has developed and transitioned into a National Non-Governmental organization contributing to an enabling policy environment for sustainable agriculture and sound environment and natural resources management at community, local, national and international levels. EA is officially registered with the NGO Board as a Ugandan non-governmental organization (NGO), incorporated as a company limited by guarantee. EA is governed by an Independent Board that is responsible for providing strategic oversight of the organization including ensuring its integrity as a voluntary service organization.

EA is a 1st prize winner of the Energy Globe Award for environmental sustainability-2005 under the category, earth.

EA is a member of the International Union for Conservation of Nature (IUCN) and a Member of The IUCN National Committee for Uganda.

EA envisions, *'Resilient and dignified communities, managing their environment and natural resources sustainably.'*

EA's mission is to, *'Contribute to improved livelihoods of vulnerable communities by enhancing agricultural productivity and sustainable natural resources management'*

Program and institutional Components:

a. Environment and Natural resources management;
b. Food security and Nutrition;
c. Water, Sanitation and Hygiene;
d. Finance and Administration;
e. Resource mobilization and Investment.

Scale of Implementation:

EA operates in selected districts for generation of evidence to inform policy engagements on agriculture, environment and natural resources at National and International levels. Currently EA's operations are in 40 districts across the country. EA undertakes area wide targeted awareness on selected issues in agriculture, environment and natural resources engagements

EA is a Secretariat for following networks:

a. The Network for Civil Society Organizations in Environment & Natural Resources Sector (ENR-CSO Network) - http://enr-cso.org/;
b. Uganda Forestry Working Group - http://ufwg.envalert.org/;
c. The Standards Development Group (for promotion of Sustainable Forest Management in Uganda); and
d. Promoting Local Innovation in ecologically oriented agriculture and natural resources management (PROLINNOVA-Uganda Country Platform) - http://www.prolinnova.net/uganda;
e. The Renewable Energy CSO Network.

Further information about Environmental Alert is available at: http://envalert.org/