



# Project Information Document (PID)

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Appraisal Stage | Date Prepared/Updated: 22-Dec-2019 | Report No: PIDA27274

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**BASIC INFORMATION**

**A. Basic Project Data**

Country Uganda	Project ID P166685	Project Name Uganda Energy Access Scale-up Project (EASP)	Parent Project ID (if any)
Region AFRICA	Estimated Appraisal Date 30-Mar-2020	Estimated Board Date 15-Jul-2020	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) Republic of Uganda	Implementing Agency Rural Electrification Agency (REA), Ministry of Energy and Mineral Development (MEMD), Uganda Energy Credit Capitalization Company (UECCC)	

Proposed Development Objective(s)

The Project Development Objective is to increase access to energy for households, commercial enterprises, and public institutions.

Components

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	482.00
<b>Total Financing</b>	482.00
<b>of which IBRD/IDA</b>	400.00
<b>Financing Gap</b>	0.00

**DETAILS**

**Private Sector Investors/Shareholders**

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Equity	Amount	Debt	Amount
Government Contribution	400.00		
IDA (Credit/Grant)	400.00		
Non-Government Contributions	82.00		
Private Sector Equity	52.00		
Trust Funds	30.00		
<b>Total</b>	<b>482.00</b>		<b>0.00</b>

**Payment/Security Guarantee**

<b>Total</b>	<b>0.00</b>
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Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

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Other Decision (as needed)

**B. Introduction and Context**

Country Context

1. **Uganda is a landlocked country in Eastern Africa, bordered by Kenya, South Sudan, Democratic Republic of Congo, Rwanda, and Tanzania.** Extending over an area of 241,550 km<sup>2</sup>, Uganda is about the size of the United Kingdom. Uganda’s population is growing rapidly at 3.3 percent per year and is expected to grow from 42.7 million in 2018 to over 60 million in 2030. The country has one of the world’s youngest population with almost half of Ugandans under the age of 15 years.

2. **Uganda’s real GDP growth rebounded to 7.6 percent in 2017.** The remarkable growth recovery was largely driven by a double-digit increase in ICT services and food crops production. Growth in manufacturing also recovered and helped industrial production grow at 3.5 percent. In 2019, real output is expected to grow to 7 percent, assuming improved execution of capital spending, favorable weather conditions, and barring other external shocks. In the short term, weather-related and pest shocks, as well as delays in executing public investments may constrain real GDP growth, which could also be adversely impacted by an unexpected rise in oil prices or sudden drop in foreign demand. Reduced foreign demand, which undermines exports, could result from regional instability due to a renewed flaring up of conflicts



in South Sudan and the Democratic Republic of Congo (DRC), Uganda's second and fourth export destinations. A flaring up of these conflicts could also set in motion a renewed influx of refugees, which in turn could disrupt growth in refugee hosting parts of Uganda.

3. **Uganda has achieved remarkable results in poverty reduction, but poverty rates remain high in rural areas, particularly in the Northern and Eastern regions.** With a per capita income of US\$ 643 [Ubos mentions US\$425], Uganda remains one of the 20 poorest countries in the world. While over 1992-2013 the proportion of households living in extreme poverty<sup>1</sup> declined from 56.4 percent to 19.7 percent, the rate increased to 21.4 percent between 2013-2017. This downward trend is mainly due to drought and pest infestation that affected the agricultural sector during the period 2016-2017. Rural households, which represent about 80 percent of the total population, have mostly fell back into poverty due to their reliance on rainfed agriculture as their main source of income. Thus, while poverty incidence remained at around 9 percent in urban areas, it increased from 22.7 percent to 25.2 percent between 2013 and 2017 in rural areas. Approximately 84 percent of Uganda's extreme poor reside in the Northern and Eastern regions, where 43 percent of the residents live on less than US\$1 a day. Economic growth in these regions has been affected by the civil conflict in South Sudan, an influx of refugees, significant land degradation, and climate change.

4. **Uganda has emerged as one of the largest refugee hosting country in Africa and the third-largest in the world with 1.2 million refugees and asylum seekers due to ensuing violence in the Horn of Africa.** Half of the refugee population is characterized by women and girls and 61 percent by children under 18 years. Approximately 75 percent of the refugees originate from South Sudan; 17 percent from the Democratic Republic of Congo; and 3 percent from Burundi, Somalia, and other countries. Most refugees reside in settlements located in 11 districts across the country (out of 134) and alongside local host communities, mainly in Northern Uganda or the West Nile (Adjumani, Arua, Koboko, Moyo, Lamwo and Yumbe). Other refugees reside in Central Uganda or Mid-West (Kiryandongo and Hoima), and Southern Uganda or South-West (Kyegegwa, Kamwenge and Isingiro). These districts are among the poorest areas in the country and are in the early stages of recuperating from a protracted civil conflict.

5. **Uganda has a progressive refugee policy framework that grants refugees the right to work, to move freely, and to access Ugandan social and public services.** The country has been hosting refugees since 1994 and is recognized globally for having a progressive refugee policy and an adequate protection framework through the Refugee Act 2006 and the 2010 Refugee Regulations. The Refugee Act guarantees refugees' fundamental rights, including the right to participate in gainful employment, freedom of movement, right to property and the right to access social services. This policy, however, places an additional layer of stress on host communities, which are mostly poor small towns and rural areas that suffer from inadequate infrastructure, limited social capital, low productivity, and environmental degradation due to climatic and soil conditions. The inability to address the development needs of host communities may undermine Uganda's long-standing open-door refugee policy.

6. **Uganda's long-term development vision is enshrined in the Country's Vision 2040 that seeks to transform Uganda to a modern and prosperous country.** The Government of Uganda (GoU) aims to drive economic development through implementation of a series of six five-year National Development Plans (NDPs). The first NDP (NDP-I) covered the period 2010-2015 and stipulated the country's medium-term

<sup>1</sup> Defined as an income of US\$1.90/day in 2011 terms, or US\$2.12 in 2018 ones.



strategic direction, development priorities, and implementation status. The second NDP (NDP-II) covers the period 2015-2020 and aims at propelling the country towards middle income status by 2020 through strengthening the country's competitiveness for sustainable wealth creation, employment and inclusive growth. The NDP-II aims to achieve an average economic growth rate of 6.3 percent and reduce poverty levels to 14.2 percent.

7. **Energy is a vital element of Uganda's Vision 2040 and the GoU has set a target of 60 percent electricity grid based access by 2027 (33 off-grid) and 80 percent electricity access by 2040.** The GoU acknowledges that to shift from a peasantry to an industrialized and largely urban society, the country must be propelled by electricity as a form of modern energy to drive the industry and service sectors. Uganda's Vision 2040 also recognizes that about 95 percent of Ugandans still use traditional biomass fuels for cooking their meals. Such reliance on biomass fuels together with Uganda's rapid population growth have exerted considerable pressure on natural resources, especially on forests. Besides, exposure to Household Air Pollution (HAP) from burning of traditional biomass fuels for cooking is estimated to significantly impact the health of over 20 million Ugandans and cause over 13,000 premature deaths every year, with women and children mostly affected. Acknowledging the recent innovations in the renewable energy sector and reduction in cost of solar energy, GoU aspires to align itself towards achieving universal access to modern energy by 2030 - Sustainable Development Goals 7 (SDG-7).

#### Sectoral and Institutional Context

8. **The past two decades have witnessed major changes in Uganda's power sector, which redefined the role of the GoU as a reformer.** In 1999, the GoU passed a comprehensive power sector reform strategy that sought to make the sector commercially viable, reduce dependence on government subsidies, improve access to electricity throughout the country, improve operational efficiency of the sector, strengthen reliability and quality of electricity supply, and attract private investment. The reforms were enshrined in the 1999 Electricity Act, which paved the way for the: (i) establishment of an independent Electricity Regulatory Authority (ERA) to regulate all sector activities ; (ii) unbundling of the vertically-integrated Uganda Electricity Board (UEB) into separate entities, namely the Uganda Electricity Generation Company Limited (UEGCL), Uganda Electricity Transmission Company Limited (UETCL), and Uganda Electricity Distribution Company Limited (UEDCL); and (iii) establishment of the Rural Electrification Board (REB) to oversee the implementation of rural electrification activities with the Rural Electrification Agency (REA) serving as its secretariat and day-to-day operations. The Ministry of Energy and Mineral Development (MEMD) retained the responsibility for policy formulation in the sector and overall sector coordination and planning. Figure 1 depicts the structure of the Ugandan power sector after the unbundling was completed in 2005.

8. **Uganda was the first country in Sub-Saharan Africa (SSA) to unbundle its power sector, which enabled private investments and public-private partnerships.** The unbundled electricity sector, a process completed in 2005, adopted the "single buyer" model where the transmission operator is the sole buyer and wholesaler of electricity, and the private sector plays significant roles in power generation and distribution. Most of the fixed assets along the electricity supply chain are owned by three public enterprises: the Uganda Electricity Generation Company Limited (UEGCL) for power generation, the Uganda Electricity Transmission Company Limited (UETCL) for power transmission, and the Uganda Electricity Distribution Company Limited (UEDCL) for power distribution. To introduce private sector



efficiencies into management and operation, the UEGCL's Kira and Nalubaale hydropower plants were leased to Eskom (Uganda) Limited in 2002, and the UEDCL's distribution assets in the major load centers were leased to Umeme Limited (Umeme) in 2005 with a 20-year concession arrangement that expires in 2025. The main objectives for the Umeme concession were to (i) reduce the fiscal burden by reducing system losses, increasing collection efficiency, and attracting private finance for distribution network investment; and (ii) improve service standards for existing customers.

9. **Following unbundling, Uganda adopted a new implementation structure for rural electrification in 2013.** The Second Rural Electrification Strategy and Plan (RESP-2) covering the period 2013-2022 divided the country into 14 Service Territories (STs), including the Umeme footprint, each being served by a distribution company (also known as Service Provider [SP]) that currently include Umeme, UEDCL and six smaller SPs. This model aimed to increase electricity access and area coverage in rural areas. All distribution assets outside the Umeme concession area were constructed by REA and leased out to SPs for operation and maintenance (O&M) on a commercial basis. Three Service Providers distribute electricity in areas which are not currently connected to the main transmission network.

10. **Considerable results have been achieved through the power sectors reforms.** The energy sector demonstrates positive achievements across the value chain. Installed generation capacity has increased from about 300 MW in 2002 to 964 MW in 2018 (640 MW are available), of which 77 percent is hydropower. Private investors are undertaking small renewable energy generation projects that will add about 200 MW by the year 2020. On the transmission side, the network has expanded from about 1,165 km in 2003 to 2,290km in 2018, and transmission losses have remained relatively stable at about 3.45 percent. Investments targeting interconnection with neighboring countries are also ongoing. Electricity sales nationally have doubled from 2,000 GWh in 2008 to 4,000 GWh in 2018. On the distribution side, Umeme has successfully fulfilled its mandate of improving efficiency within the electricity distribution system, reducing distribution losses from 38 percent in 2005 to about 17.3 percent in 2017 and increasing revenue collections from 80 percent in 2005 to over 99 percent in 2017. In a recent paper on the financial viability of 39 utilities in SSA countries, it was found that only two countries (i.e., Uganda, Seychelles) had financially viable utilities operating at full cost recovery, covering both operational and capital expenditures.<sup>2</sup>

11. **Despite sector improvements and adequate supply, access to electricity in Uganda remains low.** The distribution segment has also achieved important results, with the expansion of the distribution network to 32,863 km, reaching the proximity of most of the Uganda population. According to the latest SDG7 Tracking Report, access to electricity services stands at 22 percent (2017). The majority of the access deficit is located in rural areas, where 80 percent of the population resides. While the country has one of the highest population growths in SSA, it is also characterized by one of the lowest electricity consumptions per capita in the world, estimated at 80 kWh/year in 2017, which is far below its peers (e.g. Kenya at 155 kWh/year, Ghana at 300 kWh/year).

12. **Services quality also remains low.** Power quality and reliability considerations are very relevant in the context of Uganda, since the analysis of technical performance by Service Providers has shown that the average duration and frequency of interruptions reported are 10-20 percent higher on the network currently operated by Umeme than, for instance, in Cameroon, Zambia, Tanzania, or Kenya. Furthermore,

<sup>2</sup> Making Power Affordable for Africa and Viable for its Utilities, 2016.



the duration and frequency of interruptions on networks operated by smaller Service Providers are 1.5 to 10 times higher than on the network operated by Umeme.

13. **Consideration for off-grid technologies in the national electrification program.** In the past, the GoU relied mainly on grid extensions to provide electricity access with limited or no consideration for off-grid electrification services, which constrained the provision of electricity service to rural households that were beyond the economic reach of grid extension. Populations who could also be connected with grid electricity had to wait, often for several years, for receiving a grid connection.

14. **Access to clean cooking solutions has also been slow.** About 95 percent of Ugandans still use solid biomass fuels for cooking their meals. Out of the 20 countries with the largest clean cooking access deficit, Uganda is one of two countries where since 2010 the access to clean cooking rate declined due to additional people relying on wood fuels for cooking because of population growth. In Uganda, only 2 percent of the population uses some type of clean fuel and only about 15% of population uses an efficient biomass stove. The main barriers include lack of investments to support private sector development and lack of consumer awareness and financing support to fill the affordability gap.

15. **To tackle these challenges, the GoU have launched several initiatives to expand energy access:**

i. **National Electrification Strategy.** The Bank is supporting the GoU with the development of a National Electrification Strategy (NES) aimed at sustainably and rapidly increasing national electricity access using appropriate and cost-effective technologies, as well as increasing productive uses of electricity and promoting energy efficiency in a more effective and sustainable manner. Given the complex institutional structure of the electricity distribution sector, the Bank has undertaken an ESMAP funded Diagnostic Review of the Distribution Sector to support the GoU accelerate electricity access and enhance distribution subsector efficiency and financial sustainability through recommending appropriate institutional reforms.

ii. **Electricity Connections Policy.** In January 2018, the GoU approved an Electricity Connections Policy (ECP) to increase the number of annual connections from the average of 70,000 today to 300,000 for the achievement of 60 percent of access by 2027 and increase demand by 500MW (current peak is 600MW) by the same date. The ECP covers the period 2018-2027 and subsidizes connection costs for customers in proximity (0 to 6 poles) of the existing network as the mean for scaling-up access to grid connectivity as well as improved consumption. More specifically, the ECP targets: (i) 3 million new connections by 2027 through fully subsidizing no pole and one-pole connections, addressing affordability of internal wiring through credit and low-cost technologies (e.g., ready boards), increasing capacity of SPs to meet connection targets, and promoting off-grid solutions through private sector participation; and (ii) increasing electricity demand through facilitating connection of large-load customers and promoting productive uses of electricity.

iii. **Improved planning capacity.** Under the leadership of MEMD, the GIS working group is establishing a Spatial Development Infrastructure for integrated power sector planning. Additionally, the platform will provide cross-sectoral prioritization of socio-economic loads for priority connectivity and support the M&E framework for the whole sector. At the distribution level, customers are currently being geo-



referenced across SPs for the accuracy of the access baseline and progress in electrification rollout – from planning to implementation.

iv. **Development of a National Off-Grid Strategy.** To complement the ECP, the GoU is developing, with the support of Power Africa, a National Strategy for solar off grid and mini-grid solutions, based on GIS-based approach. The Strategy will complement grid connectivity with improved access to off-grid solutions to maximize the scale-up in the access rate. The Bank has supported the GoU in the design and adoption of the Quality Framework for solar home systems to ensure adequate quality of off-grid technology components.

v. **Working Capital and Partial Credit Risk Guarantee Facility.** This facility was set up in February 2018, financed under the World Bank-funded Energy for Rural Transformation Phase III Project (ERT-3 – P133312), to target solar companies selling quality-certified solar home systems on cash, pay plan, or pay-as-you-go basis. The objective of the facility is to catalyze the expansion of the off-grid solar market in Uganda, which is considered among the most dynamic in the world.

vi. **Market Based Approach in Clean Cooking Solutions.** Since 2016, the World Bank through the Uganda Clean Cooking Supply Chain Expansion Project (P153679) has supported the promotion of efficient biomass stoves following a Results-Based Financing (RBF) approach for market development. This project aims at reducing the inefficient use of solid biomass fuels for cooking by promoting value chain integration for distribution of stoves and introducing more efficient and durable products into the market. By March 2019, seven consortia of stove manufacturers and distributors have been attracted to the Uganda market and sold over 18,000 efficient and clean stoves following the minimum performance criteria based on the ISO standards.

16. **The Energy Access Scale-up Project (EASP) project will support the country’s efforts to scale up access to electricity for households including for refugee and host communities, commercial enterprises, health and education facilities, as enshrined in Uganda’s Vision 2040 and other policy documents.** The project will build on earlier engagements in the sector to directly support the expansion and strengthening of the electricity network, and scale-up of service connections in areas within the network reach, as well as increase access to off-grid electricity and clean cooking solutions in areas outside the network footprint and in refugee settlements and their host communities.

17. **The proposed EASP will significantly increase electricity access rate in Uganda.** At present, about 1.8 million households have grid connection in Uganda. The project will contribute around 1.25 million new connections, of which 1 million grid or mini-grid connections and 250,000 off-grid connections through standalone solar systems. The existing grid network can accommodate roughly 300,000 additional connections at one or no-pole distance. Adding more connections will require reinforcing and expanding the existing grid by adding new transformers and medium/low voltage distribution lines, referred to as grid densification. This estimate of new connections has been derived from the detail geospatial master plan of all rural Service Territories of Uganda. A least cost approach using the GIS based information will be used to identify the most suitable technology (grid expansion, mini-grid, standalone solar) to electrify villages under the EASP.





### **C. Proposed Development Objective(s)**

Development Objective(s) (From PAD)

The Project Development Objective is to increase access to energy for households, commercial enterprises, and public institutions.

#### Key Results

Progress toward achieving the PDO will be measured by the following project outcome indicators:

- I. People provided with new or improved energy access (number); of which women (number)
- II. Social and commercial institutions provided with new or improved energy access (number);
- III. People in refugee and host communities provided with new or improved energy access (number); of which women (number)
- IV. Social and commercial institutions in refugee host communities provided with new or improved energy access (number)
- V. Private sector investments leveraged through financial intermediation (number)
- VI. Greenhouse gas (GHG) emissions avoided (tCO<sub>2</sub>)



#### D. Project Description

18. The proposed project builds on the lessons learned over 20 years of Bank support to electrification efforts in Uganda, implementation progress after the unbundling of the sector in 2005 and considers ongoing discussions on further sector restructuring for improved efficiency and effectiveness of the sector distribution segment. The project encompasses the scale-up of affordable access to grid and off-grid technologies and supports increased electricity consumption for productive uses, including for refugees and their host communities, as well as of clean cooking solutions. The project consists of four components:

##### ***Component 1: Grid Connectivity Access Scale Up (US\$300 million IDA).***

19. This component targets the scale-up of last mile connectivity in support of the ECP, while ensuring adequate network strengthening and extension to priority loads. This component expects to achieve 1 million connections (4.5 million people), out of which 300,000 could be female headed households (representing 30 percent of the households in the country) and to 50,000 enterprises. Under the component, both last-mile connectivity and network strengthening and reinforcement will be supported, considering priority social and economic loads connections identified by the GoU. About 50 percent of the households residing within 1km of the existing network currently do not have access to electricity and correspond to the “low-hanging fruit” for access scale up. The connectivity opportunity will be taken into account during project implementation. This component implementation design is currently under discussion.

##### ***Component 2: Financial Intermediation for Energy Access Scale Up (US\$40 million IDA; US\$25 million CTF contingent recovery grant).***

20. The objective of this component is to scale-up energy access and consumption for residential, commercial, industrial and institutional consumers through access to finance solutions for private sector sustainable service delivery and end-user affordability. The component will tackle the main financial barriers to energy access scale-up for grid and off-grid connectivity as well as for access to clean cooking solutions. The provision of access to finance solutions for energy access service delivery is expected to leverage about US\$ 37 million in private sector investments, both equity and debt. About 250,000 new or improved energy access solutions, including about 10,000 for social institutions are expected to be provided under the component. However, access to finance under the credit line will be provided on a first-come, first-serve basis to allow for flexibility during project implementation and adequately respond to market needs.

21. The component will be implemented by UECCC building on the experience acquired over the past years in the administration of the credit line established under ERT-3. On the supply side, the component responds to private sector enterprises need of working capital to cover for the increased costs of servicing remote areas coupled with the time-lag in the collection of revenues when systems are not sold over the counter on a cash basis. On the demand side, access to credit will allow end-users to match the gap in affordability of grid and off-grid technologies, as well as fully benefit from access using appliances for livelihood improvements and powering of income generating activities.

22. All supported technologies will be required to meet ERA and REA specifications and standards (for internal wiring), and Lighting Global Quality Standards, the Quality Assurance Framework for component based SHS for off-grid solar systems and meet the minimum performance criteria based on the ISO TC285 standards for clean cooking solutions. In addition, eligible products will support the GoU compliance with the 2016 Kigali Amendment of the Montreal Protocol on Substances that Deplete the Ozone Layer.<sup>3</sup> The implementation of the proposed EASP project will



ensure coordination of activities with the National Environment Management Authority (NEMA), responsible for enforcement of the Kigali Amendment, under the leadership of the Project Coordination Unit (PCU) of MEMD.

*Sub-component 2-1: Credit Facility for Productive uses of Electricity*

23. The sub-component will provide access to credit at attractive terms to CFIs to:

- (a) **Overcome affordability constraints for internal wiring**, particularly for residential customers and of three phase connections. Internal wiring costs range from 20 to 130 percent of the average annual per capita income, remaining the main barrier to grid connectivity after the adoption of the ECP.
- (b) **Increase end-user consumption of electricity** (grid or off-grid) for productive uses. The credit line will provide access to finance to fill the affordability gap in the acquisition of efficient appliances for improved livelihoods and powering of income generating activities. In turn, increased consumption will contribute to the financial and commercial viability of SPs limiting the number of non-vending customers, as experienced in the past, as well as lifeline customers.
- (c) **Overcome commercial viability constraints for private sector companies** in the delivery of off-grid solutions through adequate and affordable access to working capital.

*Sub-component 2-2: Solar working capital facility*

24. This sub-component will provide credit at attractive terms to support both the supply and demand for off-grid technologies with the provision of access to finance to end-users and private sector companies operating in the off-grid market. The implementation of this sub-component will scale-up access to Tier 0 off grid solutions and above to ensure access to lighting and phone charging at affordable terms and supporting both cash and PAYG sales. Lending will complement Sub-component 2-1 through access to finance for smaller off-grid technologies and ensure the affordability and commercial viability of service delivery of lighting and phone charging.

*Sub-component 2-3: Clean cooking financing*

25. Given the relatively nascent nature of the clean cooking sector in Uganda, there is a continuous need for providing blended concessional finance support to the clean cooking private sector enterprises and end-users with options to draw on a credit line but at the same time apply for grant support through a Results Based Financing (RBF) mechanism, which has already proved successful under the ongoing clean cooking intervention. The clean cooking sub-component will support the scale up of clean cooking solutions through three main channels:

- a) **Results based grant-financing for end-users affordability:** The blending of grant and debt will increase end-user affordability through a grant-based deduction in the loan amount required for the purchase of clean cooking technologies, to be disbursed to participating private sector companies.
- b) **Access to working capital for private sector enterprises with available guarantee instruments for CFIs:** under UECCC, a line of credit for hard and local currency for clean cooking private sector enterprises will become available.

<sup>3</sup> The Kigali amendment entered into force on 1 January 2019, following ratification by 65 countries. The GoU was one of the first countries to ratify the Kigali Amendment on June 21, 2018. Under EASP, coordination with the National Environment Management Authority (NEMA), responsible for enforcement of the Kigali Amendment, will be ensured.



c) **Results based grant-financing for public institutions:** to respond to the GoU request, a tailored focus will be provided to scaling-up access to clean cooking solutions for public institutions (i.e. schools).

*Sub-component 2-4: Public institutions service delivery*

26. Critical public institutions such as health centers, schools, water wells, and government offices are at the heart of the socioeconomic development in any community. Under ERT-3, the GoU is currently conducting a comprehensive assessment – a first of its kind – to inform the design of the adequate business model for service delivery to public institutions in the country. The assessment includes: (i) location of public institutions, (ii) current connectivity and reliability of services, (iii) assessment of electricity needs. The study is being conducted in consultations with Ministry of Health (MoH), Ministry of Education and Sports (MES), Ministry of Water (MoW) and other relevant government counterparts.

*Sub-component 2-5: Contingent Grant Facility for CFIs (CTF Contingent Recovery Grant US\$25 million)*

27. The contingent grant facility will provide comfort to the CFIs to lend to businesses providing innovative solar technologies following disruptive business models. The businesses promoting stand-alone solar systems and clean cooking solutions do not have a track record and hence are affected by the perception that they have higher risk. This facility will be structured to help eligible private companies raise debt from CFIs and raise investment capital.

28. The contingent grant facility will support lending to eligible companies promoting solar and clean cooking solutions by covering up to 50 percent of the loan principal in case of a default resulting from the non-performance or underperformance of the underlying technology. This contingent grant facility will support lending to these businesses and provide more comfort to the market on the underlying technology. UECCC will administer the contingent grant facility. If energy companies cannot generate sufficient revenues, which result in an inability to pay debt obligations, UECCC, through the contingent grant facility, can provide the CFIs with funds to cover their losses on such loans, up to the prescribed limits of 50 percent.

29. While all other project components will be completing their planned activities by June 30, 2026, to allow adequate time to the CFIs to submit claims in case of solar company's inability to repay their loans, due to technology or implementation-related issues, this facility will remain active until December 31, 2032. Between 2026 and 2032, this facility will only review claims from the CFIs, and if the claims are found eligible, the CFIs will be compensated from the contingent grant facility. On December 31, 2032, the remaining balance of the contingent grant facility will be refunded to the CTF.

***Component 3: Energy Access in Refugee Host Communities (US\$50 million IDA Refugee sub-window).***

40. Component 3 targets energy access provision for areas hosting refugees, ensuring equality in service provision to the bottom of the pyramid. The component will ensure that areas with the highest poverty rates also have access to energy for lighting and productive use purposes to spur socio-economic development. This component will support ongoing efforts in Uganda, under the leadership of the Office of the Prime Minister (OPM), to ensure equitable access to development opportunities for social stability, and the GoU delivery on the promise to host communities to receive development support as a result of their hosting services.



30. The component is cross-cutting and will follow the same energy access interventions and implementation modalities as envisaged under the proposed project, with additional grant funding available to match the affordability gap for the bottom of the pyramid and cost of supply recovery. Activities will be implemented by the implementing agencies identified for the proposed project in strong collaboration with OPM as well as with humanitarian and development partners, and with active Bank lending and non-lending operations.

**Component 4: Enabling Environment and Project Implementation Support (US\$10 million IDA; US\$5 million CTF grant, out of which US\$8 million for DLIs- US\$7 million for TA).**

31. This component will help the GoU improve the enabling business environment to attract private investment in the energy sector and support the implementation of the proposed project, including monitoring of results. The component will ensure adequate project management support including financing for ad hoc technical assistance through individual consultants to support the Project Implementation Units (PIUs) and PCU at MEMD, envisaged to include, but not limited to, consultants to provide technical support and assist with project and procurement management, contracts management, safeguards management, and financial management.

32. Under the proposed project, the choice of IPF with DLIs will link the achievement of project results with expenditures on project management and operational costs. The DLIs will ensure the goods and equipment procured for grid network construction and grid connection or working capital loans disbursed to promote standalone solar and clean cooking solutions are realized through effective management and monitoring by the respective PIUs and PCU. Disbursement under this component will link the achievement of the agreed project results with critical milestones for the adequate implementation of the project, including milestone technical assessment and project implementation support activities. The list of DLIs identified are as follows:

- DLI 1: Establishment and adequate functioning of the PCU at MEMD
- DLI 2: Establishment and adequate functioning of the PIU at REA
- DLI 3: Establishment and adequate functioning of the PIU at UECCC
- DLI 4: Number of new grid connections
- DLI 5: Number of new off-grid connections
- DLI 6: Number of clean cooking solution distributed under the credit line
- DLI 7: Financial intermediation for energy access and consumption
- DLI 8: Adoption of a national electrification program
- DLI 9: Adoption of a new distribution structure
- DLI 10: Technical studies, planning and implementation capacity (includes adoption of low-cost technical standards; GIS based planning and monitoring platform; an establishment of an enabling ecosystem for energy access scale-up as milestones)

33. **Verification protocols.** An independent verification agency (IVA) will be contracted to conduct third-party verification on the fulfilment of all project DLIs before their submission to the World Bank for reimbursement. The independent verification will also audit the EPPs to ensure their compliance with the World Bank fiduciary and safeguard requirements prior to submission to the World Bank.

34. **Project Cost and Financing.** Cost breakdown by project component along with their respective financing sources are provide in Table 1.



Table 1: Project Cost and Financing Sources in US\$ Million

Project Components	IDA Credit	IDA-RSW Grant	CTF Contingent Recovery Grant	CTF Grant	Private Sector	Total
<b>Component 1.</b> Grid Connectivity Access Scale Up	300	--	--	--	--	<b>300</b>
<b>Component 2.</b> Financial Intermediation for Energy Access Scale Up	40	--	25	--	37	<b>102</b>
<b>Component 3.</b> Energy Access in Refugee Host Communities	--	50	--	--	15	<b>65</b>
<b>Component 4.</b> Enabling Environment and Project Implementation Support	10	--	--	5	--	<b>15</b>
<b>Total financing required</b>	<b>350</b>	<b>50</b>	<b>25</b>	<b>5</b>	<b>52</b>	<b>482</b>

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Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50

No

Projects in Disputed Areas OP 7.60

No

Summary of Assessment of Environmental and Social Risks and Impacts

Despite the main project implementation agencies accumulated experiences in delivering similar operations, the environmental and social risk rating are substantial due to the potentially complex implementation arrangement for the various subcomponents and the wide geographical scope of the project that spreads across the country and may affect ecologically sensitive areas such as national parks, forests and wetlands. Because of the nature of the anticipated civil works (Pole planting and stringing for on grid access), land acquisition and involuntary displacement is expected to be minimal and addressed through an RPF. Risks associated with influx of labor are expected but a recently added Social Risk Management component to the energy sector should help the client address GBV and VAC adequately. Stakeholder engagement and effective grievance redress will be crucial to ensure smooth project implementation.

In general, the likely environmental, health and safety effects of the program activities are expected to be localized and temporary in nature, limited to minimal vegetation clearances to enable pitting of poles for grid intensification schemes, occupational and community health and safety concerns during stringing process, and end-of-life batteries will be generated for off grid technologies. Uganda has national laws and institutions for environmental and social management, however, there are weaknesses in system performance related to institutional linkages, staffing level,



and budget allocation for environmental aspects, as well as human resource skills.

## E. Implementation

### Institutional and Implementation Arrangements

35. **Component 1:** Discussions on the adequate implementing agency for the implementation of this component are currently being finalized. The component will be implemented under the leadership and oversight of MEMD.
36. **Component 2:** this component will be implemented by the Uganda Energy Credit Capitalization Company (UECCC). Under ERT-3, UECCC has been supporting through financial intermediation the off-grid sector with almost US\$7 million in disbursed and committed loans and guarantees to private sector companies in need of working capital for the sustainability of their operations. The UECCC has been strengthened with staff in areas relevant for the preparation and implementation of the project and its expanded scope both in terms of targeted beneficiaries, financial intermediaries, and eligible private sector companies. The PIU will be head by a Director Transaction Execution and Risk Manager.
37. **Component 3:** This component is cross-cutting to Component 1-2 and will be implemented by the same agencies in close collaboration and coordination with the office of the Prime Minister (OPM), which oversees refugees' management across the country through a decentralized structure. Additionally, close collaboration has been pursued for project preparation and will be fostered during implementation with the main humanitarian and Development partners active in the country and in the energy sector, most notably: UNHCR, EnDev, the Norwegian Government.
38. **Component 4:** This component will be implemented by UECCC and MEMD and the implementing agency(ies) identified for Component 1. The Ministry has developed adequate capacity through the implementation of World Bank-funded projects to carry out institutional strengthening activities and impact monitoring in close coordination with the ERA and MoFPED. MEMD will host the Project Coordination Unit (PCU), adequately staffed to supervise, monitor and report on the activities undertaken under Components 1-4. The PCU will be responsible to liaising with the Bank and reporting on a quarterly and annual basis on progress, as well as on implementation challenges, should they arise. MEMD will ensure that lack of adequate progress shall be promptly and adequately tackled and brought to the attention to the relevant decision makers and executive powers. MEMED will ensuring coordination with the Ministry of Health, Education, Agriculture, and the OPM as needed.

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## CONTACT POINT

### World Bank

Raihan Elahi  
Lead Energy Specialist

Federico Querio  
Senior Energy Specialist

### Borrower/Client/Recipient



Republic of Uganda

**Implementing Agencies**

Rural Electrification Agency (REA)

Godfrey Turyahikayo

Executive Director

grturyahikayo@rea.or.ug

Ministry of Energy and Mineral Development (MEMD)

Robert Kasande

Permanent Secretary

psmemd@energy.go.ug

Uganda Energy Credit Capitalization Company (UECCC)

Specioza Ndagire

Managing Director

sndagire@ueccc.or.ug

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**FOR MORE INFORMATION CONTACT**

The World Bank

1818 H Street, NW

Washington, D.C. 20433

Telephone: (202) 473-1000

Web: <http://www.worldbank.org/projects>

**APPROVAL**

Task Team Leader(s):	Raihan Elahi Federico Querio
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**Approved By**

Environmental and Social Standards Advisor:		
Practice Manager/Manager:		
Country Director:		





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