



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 08-May-2019 | Report No: PIDISDSC24299

**BASIC INFORMATION****A. Basic Project Data**

Country Uganda	Project ID P166685	Parent Project ID (if any)	Project Name Uganda Energy Access Scale-up Project (EASP) (P166685)
Region AFRICA	Estimated Appraisal Date Nov 18, 2019	Estimated Board Date Jan 09, 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.

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

Total Project Cost	400.00
Total Financing	400.00
of which IBRD/IDA	400.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	400.00
IDA Credit	340.00
IDA Grant	60.00



Environmental and Social Risk Classification

Substantial

Concept Review Decision

Track II-The review did authorize the preparation to continue

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 km², 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 41.5 million in 2016 to over 60 million in 2030. The country has one of the world's youngest populations with almost half of Ugandans under the age of 15 years.
- 2. Uganda has witnessed fluctuating growth trends in the past 25 years.** Between 1993 and 2013, the proportion of households living under the national poverty line declined from 56.4 percent to 19.7 percent. However, according to new estimates from the Uganda Bureau of Statistics (UBOS), the total proportion of households living under the national poverty line has increased from 19.7 percent to 21.4 percent between 2013 and 2017. This increase represents a reversal in the downward trend of the poverty incidence observed since the early 2000s and is mainly due to drought and pest infestation that affected the agricultural sector during the period 2016-2017. This has affected the rural households, which represent over 70 percent of the total population, mostly as they still rely 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.
- 3. 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.
- 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 neighboring countries and the wider Horn of Africa region.** Uganda, which has been hosting refugees since 1994, 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.
- 5. Uganda's long-term development vision is enshrined in the Country's Vision 2040 that seeks to transform the country 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 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, reduce poverty levels to 14.2 percent, and increase electricity access to 30 percent by 2020.

6. **Energy is a vital element of Uganda's Vision 2040 and the GoU has set a target of 60 percent electricity access by 2027 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.

Sectoral and Institutional Context

7. **The past two decades have witnessed major changes in Uganda's power sector, which redefined the role of the GoU as enabler for private investments and participation in the sector, and established new entities.** 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. To implement the reforms, the GoU passed the 1999 Electricity Act, which (i) established an independent Electricity Regulatory Authority (ERA) to regulate all sector activities; (ii) unbundled 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) established the Rural Electrification Board (REB) to oversee the implementation of rural electrification activities with the Rural Electrification Agency (REA) serving as its secretariat. The Ministry of Energy and Mineral Development (MEMD) retained the responsibility for policy formulation in the sector and overall sector coordination and planning.

8. **Uganda demonstrates a successful record of private sector participation in generation.** Following the reforms, the UETCL became the sole operator of the transmission system and single off-taker of electricity from government-owned power generation companies, and Independent Power Producers (IPPs). Currently, IPPs account for over 65 percent of Uganda's generation capacity and include Bujagali Energy Limited, Hydromax Limited, Electromaxx Limited, Jacobsen Limited and several others that generate electricity mainly from renewable energy resources. The UEGCL-owned Kiira and Nalubaale hydropower plants were leased to Eskom (Uganda) Limited in 2002 for operation and maintenance.

9. **The institutional framework for electricity distribution allows unique public-private partnerships.** UEDCL's distribution assets, which were inherited from UEB, were all leased to Umeme Limited in 2005 under 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. Currently, the Umeme-operated network covers over 90 percent of the entire electricity distribution network and traverses major urban and peri-urban areas.



10. **Uganda adopted a new implementation model 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.¹ The key objective of this new distribution model was to increase electricity access and area coverage.

11. **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, of which 77 percent is hydropower. Moreover, the GoU has undertaken significant investments to further increase the generation capacity – the 183 MW Isimba hydropower plant was commissioned at the end of March 2019, and the 600 MW Karuma hydropower plant is expected to be commissioned at the end of 2019. 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 1,627 km in 2016, and 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 improved 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.

12. **The sector still faces multi-dimensional challenges, especially low access to energy services.** First, access to electricity remains low both by global and regional standards. While the historical customer connection rate has been, on average, around 70,000 new connections annually since 2007, of which about 90 percent were made by Umeme, the national electricity access rate remains low at 26.7 percent nationally and about 18 percent in rural areas, compared to other countries in the region such as Kenya (70 percent) and Tanzania (33 percent). Some of the major factors that have hindered electricity access expansion relate to nature and size of concessions, incentives and capacity to meet connection targets, and affordability of service connections charges and internal wiring. Second, access to clean cooking fuels and technologies has been slow. 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. 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.

13. **Therefore, the GoU has initiated several initiatives aimed at access expansion.**

a) **First, 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 is undertaking 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.

b) **Second, Electricity Connections Policy.** In January 2018, the GoU approved an Electricity Connections Policy to address the barrier of high connection cost for households and thus rapidly increase electricity access especially in areas within proximity to the existing networks. The policy aims at addressing major obstacles hindering increasing electricity access in Uganda by fully subsidizing no pole and pole connections, addressing affordability of internal

¹ These include the West Nile Rural Electrification Company (WENRECo), Bundibugyo Electricity Cooperative Society (BECS), Kyegegwa Rural Energy Cooperative Society (KRECS), Pader-Abim Community Multi-Purpose Electric Cooperative Society (PACMECS), Kilembe Investments Limited (KIL) and Kalangala Infrastructure Services Limited (KIS).



wiring through credit and low-cost technologies (e.g., ready boards), increasing capacity of SPs to pre-finance connection materials, and promoting off-grid solutions through private sector participation.

- c) **Third, Working Capital and Partial Credit Risk Guarantee Facility.** This facility, set up in February 2018, financed under the World Bank-funded Energy for Rural Transformation Phase III Project (ERT-3 – P133312), is targeting 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.
- d) **Fourth, Market Based Approach in Clean Cooking.** 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.

14. **To augment the ongoing access expansion initiatives, the proposed Energy Access Scale-up Project (EASP) will support the country's efforts to scale up access to electricity for households including for refugee and host communities, industrial parks and 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 services in areas outside the network footprint and in refugee settlements and their host communities. The project will strengthen the institutions and operational capacity of the Health, Safety and Environment Unit (HSEU) at the MEMD to ensure smooth implementation of the project by the various implementing agencies under the project. Technical assistance support would be also provided to the ERA to introduce new regulations if needed to ensure private sector participation to increase electricity access, both in grid and off-grid areas.

Relationship to CPF

15. **The proposed EASP supports the World Bank Group's twin goals of poverty eradication and promotion of shared prosperity.** It is also fully aligned with the priority areas identified in the World Bank Group's Country Partnership Framework (CPF, 2016-2021), which emphasizes support for sustained high rates of growth, socio-economic transformation and inclusion, and reduction of poverty and vulnerability to shocks. Increased clean energy access in Uganda will directly support the thematic objectives identified under the strategic Focus Area C ('Boosting Inclusive Growth in Urban Areas'), which call for improving the business environment and access to urban services. The provision of electricity for productive uses will accelerate urbanization and improve living standards in urban areas, while stimulating employment and creating sustainable utilities in the power distribution sector. The project will also contribute to thematic objectives identified under strategic Focus Area B ('Raising Incomes in Rural Areas'), especially on reducing regional inequalities through interventions supporting income-generating activities.

16. **The proposed EASP contributes to the NDP-II and Vision 2040's goal of increasing clean energy access in Uganda to spur socio-economic transformation.** It will lay the foundation for enhancing the ability of poor and vulnerable rural communities to participate in income generating activities and hence contribute to poverty reduction and shared prosperity, indirectly through its contribution to economic growth, and directly by enriching the lives of the beneficiaries of such services through increased household income and employment, higher profits for commercial firms, etc. The project will also support the cross-cutting issues 'gender and climate change', by supporting low-emission solar home



systems and clean cooking solutions in rural areas, which are expected to lead to better education, health and public security, especially for women and children.

17. **The proposed EASP supports the IDA18 sub-window for refugees and host communities through provision of increased access to electricity and clean energy cooking services.** It also supports Uganda's Intended Nationally Determined Contribution (INDC),² which includes a series of priority mitigation and adaptation measures, including building enabling infrastructure for electricity sector development, promoting renewable energy sources, and increasing the efficiency in the use of biomass.

C. Proposed Development Objective(s)

18. The Project Development Objective is to increase access to energy in Uganda.

Key Results (From PCN)

19. The preliminary list of results indicators is as follows:
- Number of people provided with grid electricity services;
 - Number of people provided with off-grid electricity services;
 - Number of people provided with clean energy cooking services;
 - Number of women provided with electricity services (grid and off-grid) and/or clean energy cooking services;
 - Number of industrial parks provided with grid electricity services;
 - Number of small and medium enterprises provided with grid electricity services;
 - Number of people in refugee and host communities provided with electricity services;
 - Number of people in refugee and host communities provided with clean cooking services;
 - Number of public institutions (schools, health centers, administrative buildings) provided with grid electricity;
 - Number of public institutions (schools, health centers, administrative buildings) provided with off-grid electricity; and
 - Greenhouse gas (GHG) emissions avoided (tCO₂).

D. Concept Description

20. The proposed project will increase access to electricity for households, commercial, and industrial users, and public institutions in the rural, peri-urban and urban areas through on-grid and off-grid solutions. The project will also increase access to clean energy cooking services by supporting private sector enterprises promoting efficient and clean cooking solutions. The project will also support interventions to increase access to clean, affordable, and reliable energy services in refugee areas.

21. The project is structured around four main components: (1) Grid expansion and densification; (2) Off-grid market development for rural communities, refugee and host communities; (3) Off-grid electrification of health and education facilities; and (4) Technical assistance, capacity building, and project implementation support.

² The Uganda's Intended Nationally Determined Contribution (INDC) (October 14, 2015) sets out priority actions in adaptation and mitigation, and was presented to the international community ahead of the UN Framework Convention on Climate Change (UNFCCC) Paris Conference in 2015.



Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

Despite the main project implementation agencies (REA, MEMD, UECCC) 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.

Note To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.

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