



Karuma Hydro Power dam under construction

## POWER SECTOR TRANSFORMATION

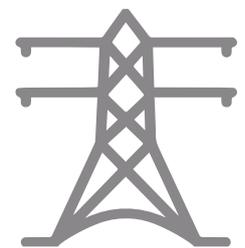
### Context:

Uganda currently has a surplus of power of about 400MW which by 2020 will be more than 1000MW, once Karuma hydro-power plant is fully commissioned. This is due to the low level of electrification, industrialisation and consequently low demand (670MW at June 2019). In addition, there is a growing number of smaller Independent Power Producers (IPPs) coming on board.

Unfortunately, this increase in power generation is not matched by demand, since only about 28 percent of Ugandans are on the national grid. The low level of average earnings of 80 percent of the population limits affordability and therefore demand for electricity. The relatively high cost of power, ranging from 20.4 US cents / kWh for domestic consumers to 5 US cents / kWh for extra-large industrials, is a deterrent to consumers.

And yet, there is a close relationship between electrification, industrialization and GDP growth.

It is therefore important that power is made affordable, more accessible, especially in the urban centres and more reliable to stimulate productive demand. This would translate to increased jobs and economic productivity in addition to increased sector revenues that would then attract the required investment.



# 28%

OF UGANDANS  
ARE ON THE  
NATIONAL GRID

## Opportunity:

Uganda now has an opportunity to maximise utilization of this excess power productively for growth and development. Industrialization and productive power use by SMEs and domestic consumers is key - complemented by the aggressive access agenda being embarked on by the Government of Uganda through the Electricity Connections Policy.

However, more needs to be done to stimulate this latent demand to match the increase in generation capacity. This in turn, will attract required investments in the sector to ensure improvements in reliability of supply.

## This can be achieved in part by:

- Improving sector performance and coordination through sector wide transformative road map;
- Improving the technical and financial performance of the current distribution infrastructure;
- Scenario planning to assess the impact of innovative tariff options and novel contracting arrangements on the broader economic performance;
- Re-aligning the mismatch in planning, financing and construction along the value chain to ensure a balance between supply and demand
- Building a sustainable sector by improving technical and business capacity and developing a capacity development program

To address some of these challenges, Cities and Infrastructure for Growth (CIG Uganda), a UK Aid funded programme is focusing its interventions to support key players in the Ugandan Power sector to spur productive use of available power to create wealth and employment.

## CIG Uganda will:

- Work with the Ministry of Energy and Mineral Development to facilitate the development and implementation of a 5-year catalytic power sector transformation roadmap and implementation plan that will lead to accelerated growth;
- Work with players in the distribution sector to analyse the performance of distribution asset management systems and the limitations on functionality and integration.
- Work with the private sector to enhance their capacity to engage with power sector players on innovative ways to stimulate latent demand from industrials and SMEs;
- Work with the regulator to carry out scenario planning of the effect of implementing various tariff options on electrification, sector performance and country's GDP; and
- Develop the concept, business case and implementation for a Centre of Excellence for the sector

## Expected Outcome:

The overall outcome is access to affordable and reliable power supply through;

- Increased productive demand leading to increased electricity consumption, sector revenues and ultimately a demand-supply balance
- Increased efficiencies and performance (technical and financial) of the distribution infrastructure
- Asset optimisation capability to improve reliability, productivity and quality of service.
- Increased productivity of piloted urban centres and quality of life.
- Development of a functional centre of excellence for the sector for capacity building, to meet the demand for appropriately skilled and sustainable resources

## Partners:

Ministry of Energy and Mineral Development (MEMD), Electricity Regulatory Authority(ERA), UMEME, Uganda Electricity Transmission Company Limited (UETCL), Uganda Manufacturers Association (UMA), Uganda Electricity Distribution Company Limited(UEDCL), Kampala Capital City Authority (KCCA), National Planning Authority (NPA), Ministry of Finance, Planning and Economic Development (MOFPED – PPP Unit), and CDC' Grid Works

## FACTS AND FIGURES



Current installed power capacity is 1182 MW and is set to increase to 2000MW by 2020



Only 28 percent of Ugandans are connected to the national grid

Current peak power demand is estimated at 670 MW, 68% of which is from extra-large industrials. Average domestic demand is 250-300MW



Annual per capita electricity consumption of 70kWh with population of 40m GDP Per capita of \$604 compared to South Africa with 54m population, 3904kWh annual per capital electricity consumption and per capita GDP of \$6609

90%

of grid connections attributed to domestic consumers with the rest being commercial and industry consumers.



For more information on Power transformation intervention, please contact Barry Dyson at [barry.dyson@ugandacig.com](mailto:barry.dyson@ugandacig.com)

CIG Uganda is funded by UK aid and implemented by Cardno International Development

