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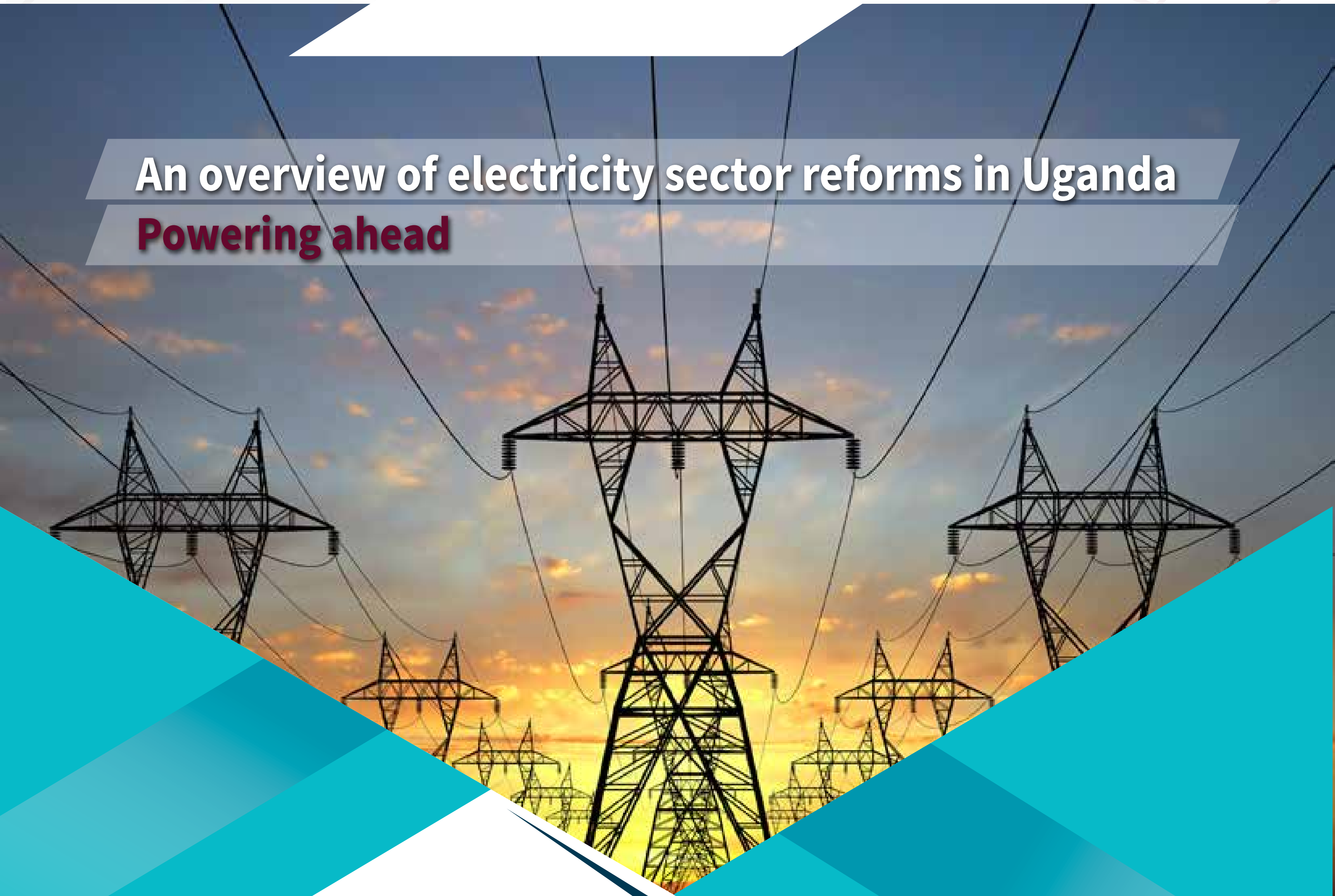
An overview of electricity sector reforms in Uganda
Powering ahead



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1. Introduction

"Power sector reforms may not lead to reduced electricity tariffs in the short to medium term because of the structural challenges of transforming former electricity monopoly markets like Uganda into fully liberalised competitive ones"

Reforms to revive Uganda's power sector after many years of neglect and underfunding commenced in the late 1990s. These reforms introduced competition in a sector that world-over was traditionally dominated by vertically integrated monopoly state companies such as the Uganda Electricity Board ("UEB").

As set out in this publication, Uganda not only liberalised but also separated the hitherto integrated power supply chain that was run by UEB into different competitive and monopoly segments. The monopoly segments are regulated in the public interest. The integrated power sector supply chain combined generation, transmission and distribution. Power sector reforms focused at creating an industry where generation, transmission and distribution were separated to attract new private investment and where possible concession the existing facilities to the private sector. Private capital inflows anchored on state commitments under Power Purchase Agreements and Implementation Agreements were expected to increase because of these reforms.

There are two main reasons why countries liberalised their power sector. Those with sufficient power production opened up to create competition between existing facilities while countries like Uganda with insufficient power production, liberalised to attract private sector investment. The question whether Uganda's power sector reforms have met stakeholder expectations divides opinion. This notwithstanding, it is often the case that power sector reforms do not lead to reduced tariffs in the short to medium term because of the structural problems of transforming former electricity monopoly markets such as Uganda into fully liberalised competitive ones.

2. Unbundling Uganda's power sector

The electricity sector is broadly divided into five segments namely; generation, transmission, distribution, supply and metering, though Uganda (similar to most developing countries) combines supply and metering with distribution. Generation produces power. Transmission and distribution transfer high and low voltage power over long and short distances respectively. Transmission and distribution segments are natural monopolies meaning that you only need to invest in one wire infrastructure over which power is transmitted, but this necessitates regulation to enable fair access by third parties other than the developers. Distribution is also the last point of the wire network before consumption. Supply involves arranging for the consumers to receive a quantity of electricity while metering is concerned with ascertaining the power consumed.

The 1999 Electricity Act ("Electricity Act") set in motion the implementation of sector reforms by unbundling the power industry supply chain into various segments and splitting UEB into the Uganda Electricity Generation Company Limited ("UEGCL"), Uganda Electricity Transmission Company Limited ("UETCL") and Uganda Electricity Distribution Company Limited ("UEDCL").

Unless licensed by the regulator, it is illegal to undertake activities falling within the electricity supply chain mentioned above as set out in the table below.

Licence type	Discussion
Generation	No person may construct, own and operate a power generation facility with a capacity of 0.5 megawatts (MW) or more without a generation licence.
Transmission	No person may construct, own or operate an installation for the transfer of high voltage electricity without a transmission licence. Only one wire network over which power is transmitted is needed meaning that the transmission segment is a natural monopoly and therefore regulated by the government in the public interest to enable fair access by third parties other than developers.
System operator	A transmission system operator ("TSO") must have a requisite licence from the regulator. A system operator among others ensures power supply balance between generation and supply and the stability of the grid safeguarding the consumer's security of supply. A system operator must also hold a transmission licence.

Licence type	Discussion
Bulk Supplier	A bulk supplier purchases power in bulk from generators and this is resold in bulk to distributors and suppliers. This too requires a licence.
Distribution	A licence is required to engage in electricity distribution. Distribution generally entails the transfer of low voltage power and is the last point of the wire network before consumption by users. Only one wire network over which power is distributed is needed meaning that the transmission segment is a natural monopoly and therefore regulated by the government in the public interest to enable fair access by third parties other than developers. A distribution licence relates to a specified area.
Sales	No person may engage in the sale of electricity unless licensed. Sales are subject to the terms of the licensce.
Import and export	No person may import or export power unless with the requisite licence.

3. Regulation of the power sector

Regulation is central in liberalised power systems and a key feature of the 1999 Electricity Act. Regulation aims not to only foster the liberalisation agenda but also ensuring that the monopoly segments (transmission and distribution) operate in the public interest. An independent regulator is at the heart of administering a liberalised power sector. The Electricity Act establishes the Electricity Regulatory Authority ("ERA"). The functions of ERA include among others:

a) Issuing licences envisioned under the Electricity Act as well as prescribing the terms and conditions therein;
b) Making and enforcing directions for compliance with licence terms;
c) Setting the tariff structure and investigating tariff charges when complaints are raised;
d) Approving charges and conditions with respect to services provided by transmission and distribution companies;
e) Encouraging the development of electricity industry standards and codes of conduct;
f) Establishing a uniform system of accounts for licensees;
g) Advising the Minister responsible for Energy and Mineral Development regarding the need for sector projects;
h) Preparing industry reports and gathering information from generation, transmission and distribution companies;
i) Prescribing and collecting licence fees;
j) Providing for the procedure of investment programmes by transmission and distribution companies;
k) Approving standards for the quality of electricity supply services provided;
l) Approving codes of conduct with respect to the operation of transmission and distribution systems.

The perceived independence of the regulator to take unbiased and uninfluenced decisions is key to attracting private sector investment. Regulatory capture is a common challenge regulators encounter. This happens when a regulator makes decisions that are influenced by another party, which could be the government, industry or consumer groups. The financing of regulatory bodies can influence this capture. Regulators are usually either paid for by government directly, or through recovery of fees from the licensees with the former open to government influence. Regulatory capture can be avoided or mitigated by allowing the regulator a degree of discretion to interpret its role. The regulator need not only tick boxes from a government prepared sheet. Adequate staffing with well trained personnel can also help manage the risk of regulatory capture.

4. Other electricity bodies

In addition to ERA, there are several other key entities involved in implementing Uganda's electricity agenda. These are:

Agency/company	Discussion
Ministry of Energy and Mineral Development	Develops the overall energy policy framework.
Rural Electrification Agency (REA)	Manages the rural electrification fund as well as implementing the strategy for electrifying non-commercially viable rural areas.
UEGCL	A state-owned company managing government-owned power generation facilities. It has at the moment concessioned the running of the Nalubaale and Kira Hydro Power Stations to ESKOM. It is also involved in the development of hydro and other renewable energy projects on behalf of government.
UETCL	A state-owned company that owns the transmission infrastructure operating above 33KV and is also the transmission system operator ("TSO"), bulk buyer of electricity from generators and seller to distributors. It is also licenced to import and export power.
UEDCL	UEDCL is a state owned company overseeing the low voltage power distribution network concessioned to UMEME. It also operates and maintains electricity stations in service territories and the pole treatment plant.
Electricity Disputes Tribunal	The tribunal hears and determines all matters relating to the electricity sector. This does not however include the jurisdiction of the tribunal to try any criminal offence or hear any dispute that a licensee and other party may have agreed to settle in accordance with their agreement. In the exercise of its jurisdiction, the Tribunal has the powers of the High Court.

5. Energy stability and security

A country needs a diverse energy mix to provide security of supply in the event of disruption. Uganda has abundant energy sources but is heavily dependent on hydropower. Prolonged droughts in the past significantly reduced water levels affecting power production.

The government is keen to increase the use of renewable energy in the power mix. Renewable energy is obtained from resources that are naturally replenished such as waves, tides, sunshine, geothermal and wind among others. Renewable energy is the most environmentally friendly source of energy. It is sustainable and cannot run out. Its drawbacks are that it requires high upfront costs, and is unpredictable as it often relies on weather. For example, wind turbines need wind to turn the blades, and solar requires sunshine. This unpredictability creates the need for energy storage and associated additional costs.

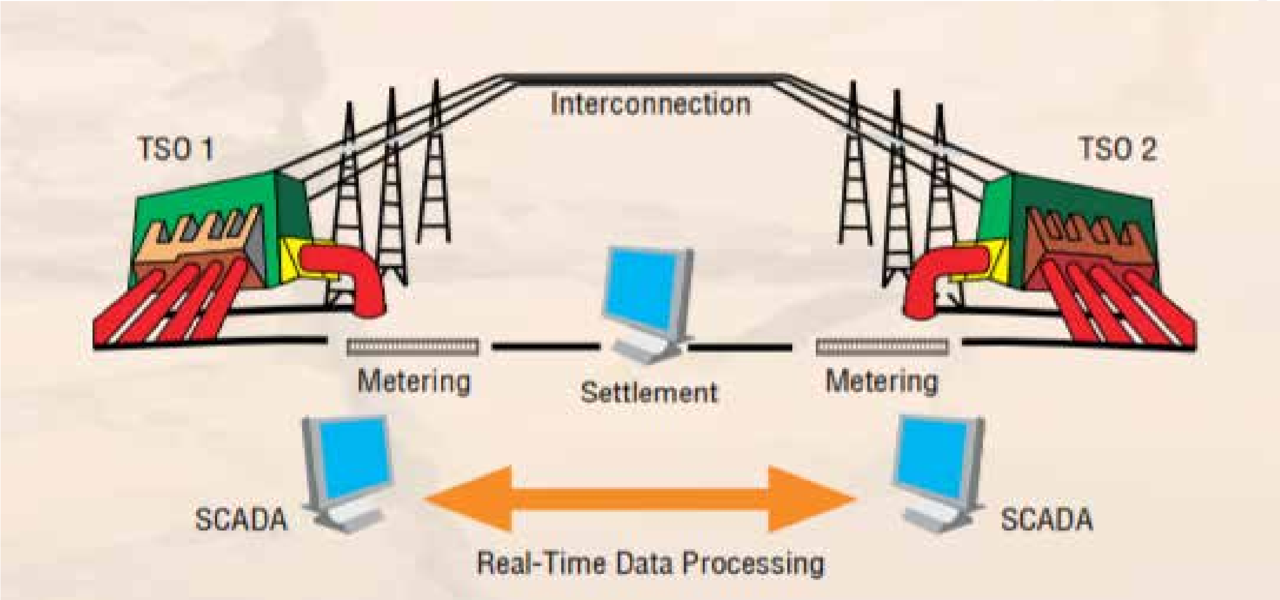
Uganda has in place a Renewable Energy Feed in Tariff (FiT) structure to promote the deployment of renewable energy. The FiT places an obligation on specific entities to purchase the output from qualifying renewable energy generators at pre-determined prices. A number of off-grid solar projects have taken off but there is still untapped wind and geothermal potential.

The government also has plans to produce nuclear power. Nuclear power plants though expensive to build are relatively cheaper to run in the long run. The high upfront constructions costs, public safety and disposal of radioactive waste are some of the concerns that countries have to take into account in deciding whether to consider it in their energy mix.

6. Cross border power trade

Uganda is a member of the East African Power Pool ("EAPP"). EAPP brings together 12 countries with the objective of integrating their power grids enabling the flow of power between countries with a surplus to those with a deficit. Though electricity exchange and trade has always existed between Uganda and its neighbours such as Rwanda, Tanzanian and Kenya, these bilateral system interconnections did not provide for coordinated planning of expansion and generation capacity as envisaged by the EAPP.

Through the integration of national power grids, power pools increase the market size for electricity consumption justifying the construction of much larger power projects that can attract finance from both domestic and international investors. The construction of cross border interconnection facilities to enable power trading in East Africa is either planned, underway or completed.



Source: *"Building Regional Power Pools. A Toolkit." World Bank,*

7. Conclusion

Power sector reforms may not lead to reduced electricity tariffs in the short to medium term because of the structural challenges of transforming former electricity monopoly markets like Uganda into fully liberalised competitive ones. Liberalisation may in fact result in increased electricity tariffs to cover the costs for new power generating plants and the associated investment return. The contracts awarded to secure investment known as Power Purchase Agreements (PPAs) can also make it difficult to create competition in generation, the major determinant of the final cost of power. Many developing countries including Uganda offered a subsidy as a means of artificially lowering power tariffs. Taking out such subsidies as encouraged by the international development agencies has led to significant tariff increments and attracted public opposition.

Plans to merge several statutory agencies and companies are underway as the Government of Uganda attempts to align functions and also eliminate duplicated public expenditure amongst other considerations. It is proposed to merge UEGCL, UETCL, UEDCL and REA while the mandate of the Electricity Disputes Tribunal is to be transferred to the line Ministry. It is presently unclear whether the Electricity Regulatory Authority ("ERA") will be affected by these changes. These agencies play different but complementary roles in the implementation of the industry agenda and there are questions whether this policy shift will not reverse the power sector gains.

Opening up Uganda's power sector has attracted significant private investment especially at generation. This has been enabled by the confidence investors have had in the independence of the bodies established pursuant to the reforms to oversee, regulate and implement the power agenda. The private sector is nervous that the proposed mergers could result in new departments and bodies that are not adequately staffed or funded thus eroding their independence and giving rise to fears of regulatory capture inhibiting their capability to execute their mandate hence reducing investor confidence. Though the power sector remains liberalised, merging UEGCL, UETCL and UEDCL, which are the largest electricity companies, would create a de facto monopoly wielding significant market power similar to the disbanded UEB. There are also questions around the optimal assignment or transfer of the existing contractual obligations that could be more complex than envisaged. While government's aspiration of value for money public expenditure is lauded, it may be necessary to take a step back to evaluate whether the proposed merger of the electricity agencies would not adversely affect the implementation of the ongoing power sector reforms that have gained traction after about 20 years of trial, experimentation and lessons learned.

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Bill is a Senior Advisor with Cristal Advocates. He has concentrated on working with energy companies with a particular focus on cross border transactions and M&A since 1989 and is a leading global energy and tax practitioner with wide international experience. Between 1986 and 1998, he worked in London with the UK tax authorities and Big Four accounting firms. From 1998 to 2004, he was based in Kazakhstan working across the Caspian region with Deloitte. He was in the region at the time it was developing its infrastructure for crude oil production with international investment following the collapse of the Soviet Union.

From 2004 to 2008, he worked in Russia where he led Deloitte's oil and gas industry group and established Deloitte's office in Sakhalin. He moved to East Africa in 2009 leading Deloitte's energy and resources industry group in Uganda, Kenya, Tanzania, Rwanda, Ethiopia and Mozambique. He was initially based in Kampala, Uganda later relocating to Dar es Salaam, Tanzania. Bill returned to the UK in 2014 supporting Deloitte UK teams working on outbound projects investing in Africa and was a key member of Deloitte UK's energy and resource practice until his retirement from the firm in September, 2018.

Bill is a graduate of Oxford University and completed his inspectors' training with the UK Inland Revenue in 1989. ■

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Denis is the Managing Partner at Cristal Advocates where he also leads the energy and tax practice. He is qualified both as a Lawyer and Chartered Accountant with vast experience serving various industries in Sub Saharan Africa. Before joining Cristal Advocates, he had worked for close to 10 years with Deloitte and Touche where he started his career and rose to senior managerial positions.

At Deloitte, he lived and worked in Uganda, Kenya, Tanzania and the United Kingdom for over 6 years and subsequently became the firm's chief of staff for the Energy and Resources Industry Group seeing him play a lead advisory role in Uganda, Kenya, Tanzania, Mozambique, South Sudan, Somalia and Ethiopia.

Denis is widely published and a regular commentator in the local, regional and international media and speaker at various forums regarding the taxation and financing of energy projects as well as the protection of large capital projects within the framework of international investment law.

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John leads the public policy and advocacy practice at the firm and combines unique public and private sector experience.

Prior to joining Cristal Advocates, he had worked as a Private Secretary to the President of the Republic of Uganda. During this time, he participated in several public and private sector engagements that included advising and coordinating activities relating to oil and gas as well as infrastructural projects of national significance. John had earlier worked with the Post Bank Uganda Limited and Shonubi Musoke and Co. Advocates.

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Dickens leads the oil and gas practice at Cristal Advocates. He has an in depth appreciation of Uganda's oil and gas sector having served as the maiden Company Secretary of the Uganda National Oil Company (UNOC) and the Uganda Refinery Holding Company Limited (URHC). UNOC represents the Government of Uganda commercial interests in the oil and gas sector while URHC represents government interests in the refinery project as well as managing the petrol based industrial park.

Dickens was instrumental in UNOC's formation and initial period of operation and also served as its head of Contracts, Negotiations and Advisory until May 2018. Prior to joining UNOC, Dickens was Legal Counsel at the Petroleum Directorate of the Ministry of Energy playing key legal advisory roles on the negotiation and implementation of PSAs, Joint venture and other oil and gas agreements. He was also part of the team that shepherded the process of enacting the current Ugandan oil and gas Legislations and Regulations including the local content requirements.

He is a certified project control specialist (IFP) and holds a Master of Laws Degree in Petroleum Law and Policy from the University of Dundee in the United Kingdom, a Post Graduate Diploma in Legal Practice and a Bachelor of Laws degree from Makerere University. ■

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He joined Cristal Advocates from Kizza, Tumwesige, and Ssemambo Advocates. He previously worked with the Advocates Coalition for Development and Environment (ACODE). He also undertook a traineeship with the oil and gas division of Webber Wetzel in Johannesburg, South Africa.

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