



ENERGY POLICY REFORM

**INDEPENDENT POWER PRODUCERS AND POWER SECTOR REFORM:
SOME LESSONS FROM COMPARATIVE EXPERIENCE IN SUB-SAHARAN AFRICA**

RESEARCH REPORT

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PREPARED BY:

RESEARCH:

Akabondo Kabechani (Head of Monitoring & Evaluation)and **Chileshe Chaunga** (Senior Researcher) with the support of **Bernadette Deka** (Executive Director)

TECHNICAL REVIEW:

Salim Kaunda (Head of Research and Analysis))

EDITORIAL TEAM:

Brian Sambo Mwila (Communication Specialist) **Layout and Design**

Melody Simukali (Head of Communication and Grants) **Editorial**

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**Independent Power Producers and Power Sector Reform:
Some Lessons From Comparative Experience In Sub-Saharan
Africa**





1. INTRODUCTION

Improving the performance of the electricity sector in Sub-Saharan African (SSA) countries is a long-standing agenda, going back to the 1990s (Besant-Jones 2006, Jamasb et al 2017, Kessides 2012). At that time, the electricity sectors in most African countries were state-owned and run as parastatals, and were characterised by low levels of access, unreliable service, high energy losses, capacity shortfalls, heavily subsidised pricing structures, poor financial performance of utilities and a lack of resources to improve and extend services.

The early approach by the World Bank and other agencies was to attempt to implement a set of 'standard' or 'textbook' reforms based on economic theory and experience in countries such as Chile and the UK. Key elements were:

- Corporatisation of parastatal utilities;
- Unbundling of generation, transmission, distribution and supply;
- Introducing competition to wholesale generation and supply;
- Establishing an independent regulatory authority;
- Horizontal separation of incumbents to create viable supply (i.e. breaking up state monopoly into several companies); and
- Privatisation.

However, the subsequent experience of reform efforts has led to two broad conclusions (Jamasb et al 2017):

Firstly, reforms have proceeded more slowly than anticipated, and in most cases remain only partial. In SSA, while many countries have opened up space for investment by private

sector Independent Power Producers (IPPs), most have not privatised, unbundled fully or introduced wholesale and retail competition (Gratwick and Eberhard 2008a). In 2014, of 48 SSA countries, 21 had state-owned, vertically integrated utilities with no private sector participation, while another 14 had vertically integrated state-owned utilities but had introduced IPPs (Eberhard et al 2016). A smaller group have unbundled to some extent but have not introduced IPPs. Many have created regulatory authorities, but in most cases these are not genuinely independent of government.

Secondly, reforms have not always had the expected effects. While some reforms have in some cases led to improved capacity expansion and utilisation, expanded access and reserve margins, they have not done so in all cases, and in many cases prices have increased as they have become more cost-reflective. There is some evidence that increasing competition has had more of a positive effect than privatisation or regulation (e.g. Zhang et al 2008). However, some countries have systems that are too small for viable competitive power markets (Nepal et al 2017).

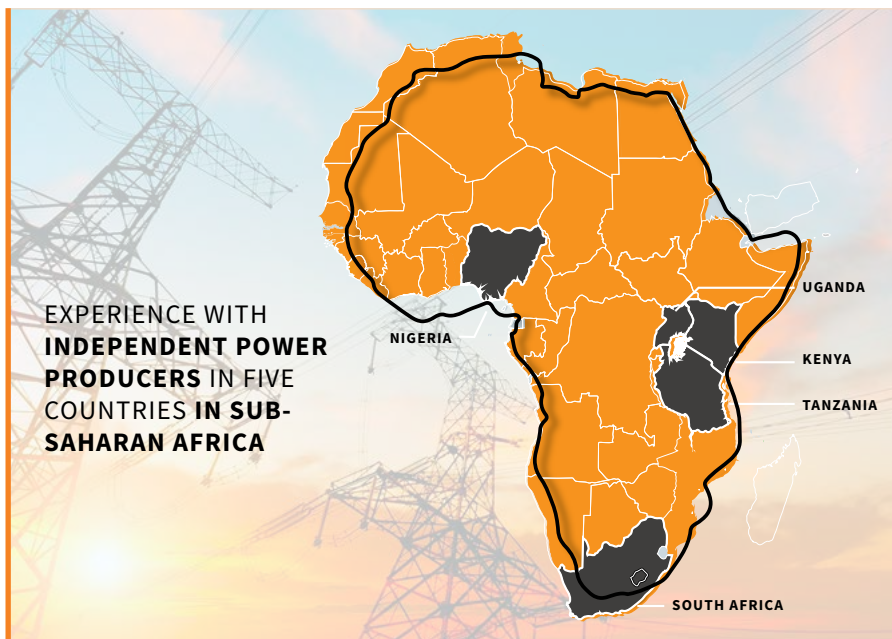
Following a re-assessment by the World Bank in the mid-2000s (Besant-Jones 2006), a more nuanced approach to power sector reform has been followed, based on acceptance that a 'hybrid' model with public and private sector actors coexisting in generation has become widely established (Gratwick and Eberhard 2008b). Reforms need to be designed to suit the specific conditions of countries, paying more attention to the technical characteristics of the system, institutional capacity and the transaction costs of reform. For example, the case for unbundling is strongest in large power systems in countries with relatively strong institutions. There is an acceptance that 'big bang' power sector reform rarely works, and that a sequenced approach that needs patience, while maintaining momentum, is more realistic. It is also recognised that reform is a political process (McCulloch et al 2017), where public acceptance is extremely important, along with the need to create new benefits that can be used to compensate groups or institutions that will lose from reform.

More recently, attention has turned away from particular kinds of restructuring to focus on the conditions needed for increased investment in the power sector (Eberhard et al 2016, 2017). This focus is particularly relevant for Zambia, for two reasons. First, the country is facing a growing structural capacity deficit, exacerbated in low rainfall years because of the reliance on hydropower. Second, because electricity prices have recently increased with tariff reform, to maintain reform momentum, a benefit in terms of greater reliability is needed. For both of these reasons, an increase in capacity, especially non-hydro capacity, is the next obvious step for reform. Because of limited access to resources for investment by the state, this means a greater involvement of IPPs. The rest of this note therefore focuses on lessons from elsewhere in SSA for increasing cost-effective IPP investment in generation.

2. KEY MESSAGES

IPP investment in SSA has been fairly concentrated in a few countries. In terms of installed capacity, the largest markets have been Nigeria, Kenya, Cote d'Ivoire and Ghana. In terms of the number of projects over the period 1994-2014 the leaders are Kenya, Uganda, Mauritius and Senegal.

Eberhard et al (2016, 2017) have recently reviewed the experience with IPPs in five countries in SSA (**Uganda, Kenya, Tanzania, South Africa and Nigeria**). While all of these countries have had IPP investments, these have varied in **cost and quality**. As discussed above, these countries have also had different institutional arrangements in their power sectors, reflecting varying degrees of reform elements from the 'standard' model described above. The review concludes that:



There is no clear correlation between the degree of unbundling and the presence of private investment in the form of IPPs, although it seems logical that where the national utility is still investing in new generation capacity, its unbundling would have the effect of levelling the playing field for new IPPs... IPPs are [also] not necessarily correlated to the presence of an independent regulator. In sum, the analysis shows that IPP investments have arisen in a variety of power market structures, characterized by various degrees of reform (**Eberhard et al 2016, p 34**).

This does not mean that elements of the standard reform model are irrelevant where they improve governance of the power sector. But it does mean that the key lessons from the review are focused less on institutional reforms and more on specific functions that have been found to facilitate cost effective, high quality investments by IPPs. As noted above, power sector reform in SSA has been partial. While there has been unbundling of generation from networks in some cases, almost all countries still have a dominant state-owned utility while some also have IPPs, leading to a ‘hybrid’ market in which both co-exist. Wholesale competition is extremely limited and in most case the state owned utility is the off-taker of power for IPPs.

In these circumstances, there needs to be focus first on effective planning, procurement and contracting practices for new generation investment and second on ensuring the financial health of the off-taking utility. The importance of these elements is also borne out by experience in Latin America. Because regulators approve the Power Purchase Agreements (PPAs) that define the costs of contracting IPPs, as well as the division of risks, the quality and independence of regulation in the power sector is also seen as important. These points are expanded below. A summary of the specific policy lessons is provided in Section 4.

2.1 Planning, competitive procurement and contracting

Hybrid markets involve the state, or state-owned utilities, playing a dominant role in shaping the sector, meaning that central planning will play a more decisive role than in a liberalised market. Effective planning is therefore important for minimising costs for consumers and making the most of IPPs. Such plans should be the basis for procurement (see below). They involve the use of tools such as the Least Cost Power Development Plan (LCPDP), including both generation and transmission planning, and identifying the supply and demand-side investments needed to meet projected electricity demand at the least total cost over a certain period (typically 15–20 years), while also meeting associated policy objectives such as environmental sustainability.

To be effective, planning should not be a one-off periodic exercise, but a continuous, dynamic process of keeping up-to-date with technology costs, changes in demand trajectories and security of supply threats. According to Eberhard et al (2016), South Africa’s 2010-2030 Integrated Resource Plan (IRP) suffers from being out-of-date, with optimistic demand projections and incorrect cost assumptions.

Experience suggests that effective planning also involves input from a broad range of stakeholders. ***For example, Kenya, one of the most successful countries in terms of attracting IPP investment, has involved stakeholders through the membership of a planning committee chaired by the energy sector regulator.***

There is no single institutional arrangement – i.e. located within the state utility, the ministry or the regulator – for planning that has proved optimal. What appears to be more important is that wherever it is located, the planning function needs to be properly

resourced in terms of people, software, and institutional capacity. The majority of Sub-Saharan African countries have inadequate capacity and end up contracting out this function to consultants. This increases the risk that plans for least-cost generation expansion are produced but are not then implemented, which has been the case, for example in Tanzania.

For planning to play a useful role, it must be translated into appropriate investment and procurement decisions which encompass both the public and private sectors. However, few African countries have an explicit connection between planning and procurement. South Africa is an exception, where legislation and related regulations allows the minister of energy to determine not only how much new power generation capacity is needed, but also what type should be built, and when, and by whom (although even in this case there is no clear criteria for allocating opportunities between the public and private sectors). One common problem is the involvement of more than one actor in procurement, such as in Ghana where the ministry, the state-owned utility and a hydropower parastatal have all entered into PPAs with IPPs, effectively making planning or coordination irrelevant.

Cost-effectiveness also depends a lot on the design of the procurement process. While a few countries have used competitive bidding, a disproportionate share of IPPs in Africa is developed based on unsolicited proposals and through direct negotiation. Experience shows that competitive procurement processes produce lower costs, including ultimately for consumers. Eberard et al (2017), reviewing 50 projects, find that diesel projects procured by an internationally competitive process are on average around US\$10/kWh cheaper than directly negotiated PPAs, while solar PV projects were around US\$8/kWh cheaper. Competitive procurement, such as reverse auctions, have also yielded lower costs for renewable electricity, such as wind and solar PV, than administratively set feed-in tariffs.

Where projects are directly negotiated, then measures to ensure value for money can also be taken. Eberhard et al (2016) cite the example of Kenya Power which historically used 'open book' processes, pre-specifying a capital structure for the project and expected returns on debt and equity, and comparing the resulting prices to other pricing benchmarks—such as feed-in tariffs (FITs) and the prices resulting from competitive procurements. The energy regulator also undertook a separate review of value for money.

PPAs between IPPs and the state, whether ministry or utility, typically last a long time (typically 15-30 years) partly to give the revenue stability to underpin investment. However, if state agencies are to minimise costs and agree a fair allocation of risk, they must have a degree of capacity to negotiate contracts with IPPs which typically have access to a great deal of specialised expertise. Eberhard et al (2016) argue that experience suggests that the best location for the negotiating function may be an independent system operator that also takes responsibility for planning and may then be integrated with the procurement function, and is thus able integrate responsibility for short-term balancing and long term security of supply.

2.2 Creditworthiness of off-takers

In many SSA countries, the state-owned utilities that are the off-takers of electricity from IPPs are in poor financial shape. This is often because of high losses in distribution lines and a poor record on revenue collection, a combination of factors that mean losses of up to half of a utility's turnover. However, a more fundamental reason is the fact that tariffs are frequently not, in aggregate, cost-reflective, meaning that utilities cannot cover capital and operating costs. Governments often intervene in the setting of tariffs to keep prices low for political reasons. Unless governments explicitly reimburse utilities for what is effectively subsidised electricity (which they often do not), then the latter accrue chronic debt and may also suffer from liquidity problems. Potential IPPs perceive substantial risk in such conditions, especially the risk of non-payment if the utility is financially fragile.

In such circumstances IPPs will tend to seek safeguards of some kind, including international arbitration, sovereign guarantees, ring-fencing of revenues or escrow accounts, loan or payment guarantees from international financial institutions (e.g. the World Bank, AfDB) and various types of insurance products. The direct involvement of development finance institutions in large-scale investment can also give private investors greater confidence. However, in the longer term the financial health of offtaking utilities can be established on a more sustainable basis only through improved governance and management of utilities, and tariff reform in the direction of cost-reflexivity, or more credible guarantees that government will underwrite subsidy.

2.3 Quality and independence of regulators

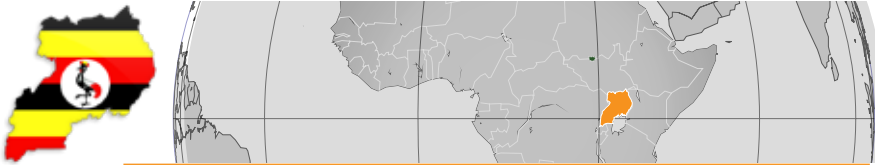
The countries with the most IPPs—for example, Uganda, Kenya, Senegal, Nigeria, Tanzania, Ghana, Cameroon, and Côte d'Ivoire—all have electricity regulators, although this is not a necessary condition. Eberhard et al (2016) argue that if regulatory governance is transparent, fair, and accountable, and if regulatory decisions are credible and predictable, there is greater certainty around market access, and tariffs and revenues—with potentially positive outcomes for the host country and investors alike. They also argue that the best arrangement is for a requirement for competitive procurement to be written into legislation, along with the power of the regulator to oversee the enforcement of competition. This is the case in countries which have had success in attracting IPPs.

Even in developed countries, regulators are never entirely independent of governments in practice, but in many SSA countries their independence is often heavily compromised. The greater their independence in practice, and the greater their professional capacity the more likely that the quality of regulation will have the qualities desired for attracting IPPs. High quality regulators will also have the capacity to undertake the regulatory changes, for example in grid codes, needed for facilitating the introduction of intermittent renewable sources of electricity into the system.

3. CASE STUDIES

A number of case studies serve to illustrate the lessons above. As noted above, there is a range of experience in attracting competitively costed IPP investment in Africa. Here PMRC will focus on three East African examples as being relevant to Zambia (i.e. excluding larger systems such as South Africa and Nigeria) ranging from the more successful (Kenya, Uganda) to the less so (Tanzania). Except where indicated otherwise, the material presented here is based on the case studies in Eberhard et al (2016), which in turn draws on Kapika and Eberhard (2013).

3.1 Uganda



Overview

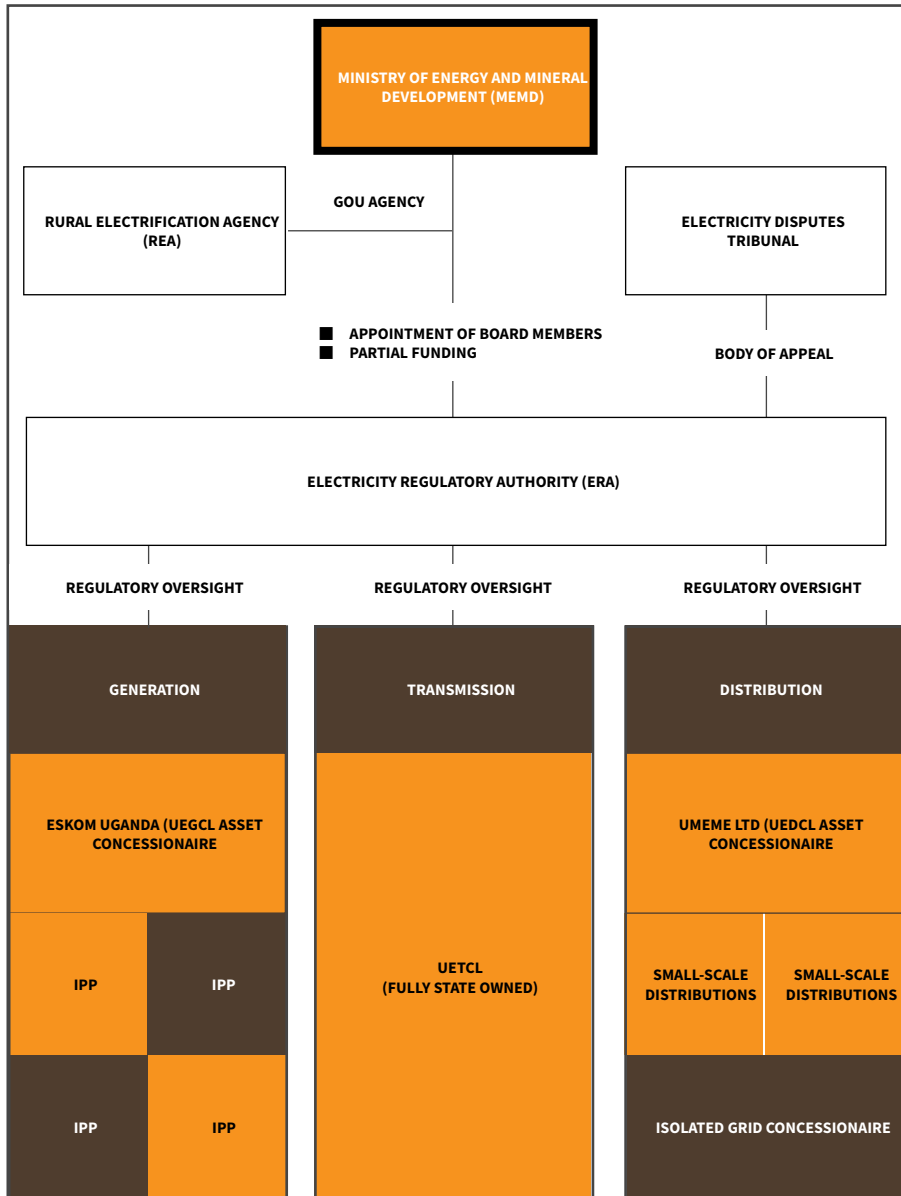
Uganda was the first country in Africa to unbundle generation, transmission and distribution, between 1999 and 2005. Outside of South Africa it has been one of the most successful African countries at attracting IPPs, with 11 investments by 2013, along with continued public sector investment in generation. It has a technically strong regulator and good planning system. However, there is still some controversy over IPPs, and in practice procurement is still split between different actors.

Reform history

Uganda was the first country in Africa to unbundle generation, transmission and distribution, which it did between 1999 and 2005. The operation and management of generation assets and of the distribution grid were contracted out to the private sector under concession arrangements (**Figure 1**)

SEE FIGURE 1
ON NEXT PAGE..

Figure 1: Institutional arrangements in the Ugandan electricity sector



Source: Compiled by the authors, based on various primary and secondary source date.
 Note: GOU - Government of Uganda; IPP - Independent power project; UEDCL - Uganda Electricity Distribution Company Ltd; UEGCL - Uganda Electricity Generation Company Ltd; UETCL - Uganda Electricity Transmission Company Ltd

Source: Eberhard et al 2016

Initially, these reforms did not seem to bear much fruit, and the sector continued to suffer from load shedding and reliance on short-term high cost diesel and heavy fuel oil generation contracts during drought (Maweje et al 2012). The large, controversial Bujagali hydropower project was delayed and only completed in 2012. However, more recently Uganda has seen a stabilisation and improvement in performance, with a sharp reduction in distribution losses and expanded generation capacity.

IPP experience

Up to 2013, Uganda has seen 11 IPPs make investments, the most in any country in Africa except South Africa. Since 2013 power production from IPPs has exceeded that from the state-owned utility. Uganda has contracted IPPs under both competitive bid processes and via directly negotiated PPAs. The country also pioneered the global energy transfer feed-in tariff (GETFiT) programme of competitively bid small scale renewables projects in cooperation with KfW. Eberhard et al (2016) note that private investment in power is still politically contested in Uganda, and IPPs are seen locally to be potentially expensive, complex, and time-consuming, but the country offers some interesting insights into the IPP experience.

Planning and procurement

Under Uganda's 1999 Electricity Act, overall responsibility for expanding generation capacity is clearly located in the Ministry of Energy and Mineral Development (MEMD), although in practice the technically strong electricity regulator ERA (see below) also shapes the energy mix. The MEMD has a dedicated department for forecasting supply and demand, which also coordinates policy proposals from other actors, such as the Rural Electrification Agency, and relates these to the national planning framework. The ERA does the technical development of the least-cost generation path, and also has influence through setting capacity targets and by licensing generators.

Bids from potential IPPs and competitive tenders have largely been channelled through the ERA, which also monitors performance under PPAs. However, the MEMD has become directly involved in the procurement of two large Chinese-funded hydropower schemes, which while adding significantly to generation capacity, has been seen as a challenge to the clarity of institutional arrangements.

Uganda has sought to specifically develop renewable electricity capacity, with dedicated procurement instruments such as feed-in tariffs (REFiT), and more latter competitive procurement (of mainly small hydropower and bagasse schemes) through GETFiT. Investor confidence in this part of the sector has been encouraged by the support of the ERA and the government for grid enhancements to support investments made under the REFiT scheme.

Creditworthiness of the offtaker

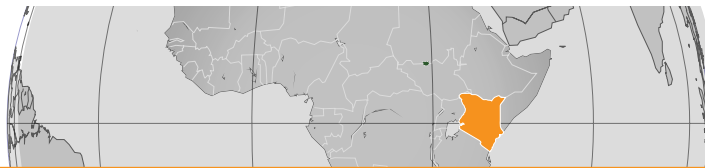
In Uganda, the offtaker for IPPs is UETCL the state-owned and operated transmission company. UETCL sells bulk power on to the distribution company, run by the concessionaire

Umeme Ltd, which then retails electricity. The performance of Umeme in reducing distribution losses and in increasing revenue collection rates has improved over time. In addition, tariffs, which were below the cost of service, were increased by the regulator in 2005-06 and then again in 2012. However, some state-owned companies have run up large debts to Umeme, which has in turn then withheld payment to UETCL. Partly to offset concerns about the offtaker, GETFiT provided guarantees from the World Bank.

Regulation

Uganda's regulator, the Electricity Regulatory Authority (ERA), was created in 1999 and according to Eberhard et al (2016) sees itself as the promoter of frameworks for investment and competition and as the 'guardian' for the least-cost development path for development of the sector. The ERA has developed technical planning capacity, and is also the hub for data collection and analysis, allowing it to become the de facto policy adviser for other stakeholders. However, the ERA was not sufficiently powerful to prevent the government directly contracting two large-scale Chinese backed hydro schemes in the late 2000s.

3.2 Kenya



Overview

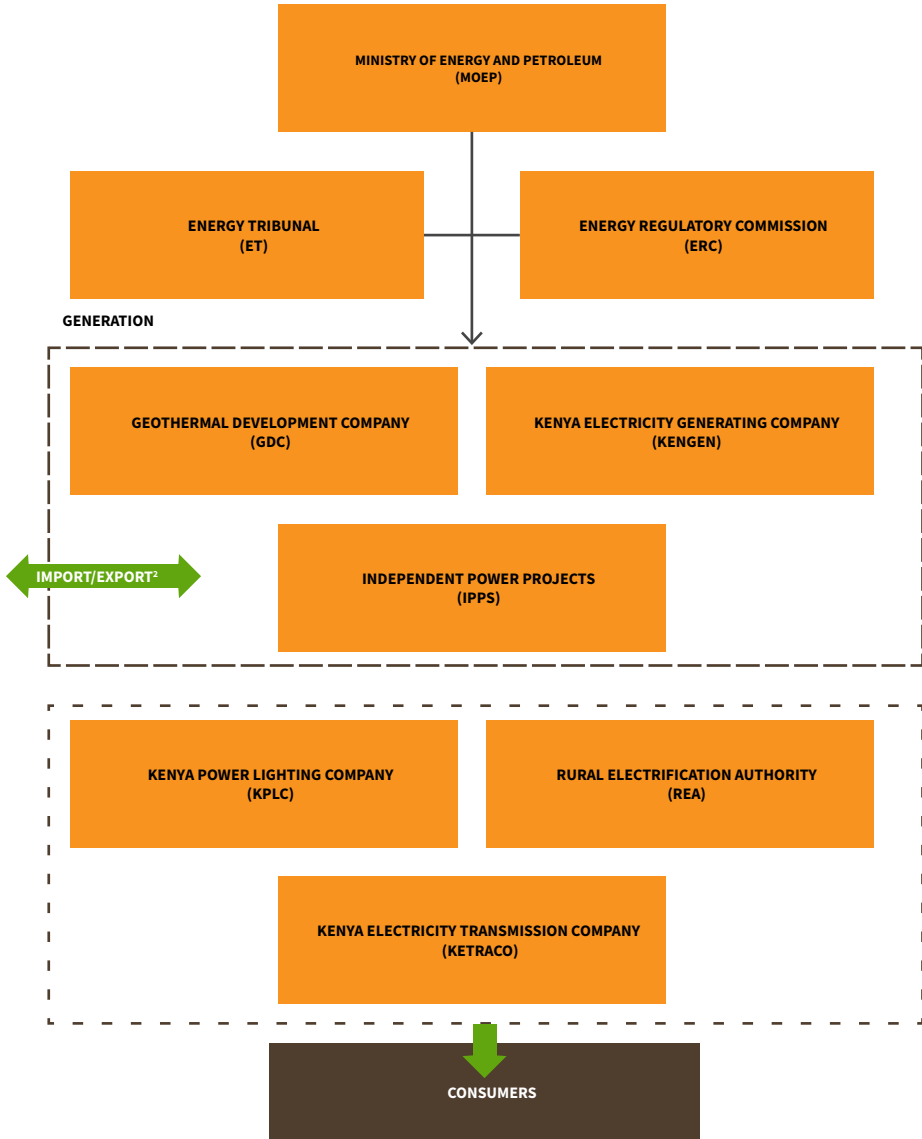
Kenya is among the countries in Sub-Saharan Africa with the most extensive experience in IPPs, dating back to 1996. It has a strong planning capacity, wide use of competitive procurement and an offtaker in reasonably good financial health, in part due to tariffs that are close to cost-reflective.

Reform history

Kenya introduced major reform of its power sector in 1997, with the creation of a regulatory authority and unbundling of generation from transmission and distribution. Further reforms in the mid-2000s included the creation of a rural electrification authority, the aim of introducing competition in generation and supply, the establishment of a new sector regulator (ERC) and privatisation of a 30% stake in the generation company, KenGen. The current structure of the sector is shown in **Figure 2**

SEE FIGURE 2
ON NEXT PAGE..

Figure 2: Institutional arrangements in the Kenyan electricity sector



Source: MoEP 2013 Kapika and Eberhard 2013
 Imports and exports are as follows Kenya buys/sells power from/to Uganda at 132 Kilowatts (kV). Kenya also has cross-boarder trade with Tanzania and Ethiopia at 33 kV. It buys power from Tanzania at Lungu Lungu and sell to the country at Narranga and buys power from Ethiopia at Moyale. New-boarder trade includes the following significant developments: a new 500 high-voltage direct current (HVDC) line between Ethiopia and Kenya with a power purchase agreement (PPA) signed for Kenya import of 400 megawatts (MW), from July 2018. A further PPA been signed by Kenya, Rwanda and Uganda with Kenya exporting to Rwanda approximating 30 MW, via Uganda starting in July 2015 (African Energy 2015).

IPP experience

IPP investments in Kenya have come in a series of waves, the first in 1996, the second in 1997-1999, a set of emergency power plants constructed because of droughts from 2000 onwards, and then a new wave of investments from 2010 onwards. By 2014, KenGen still dominated the sector with just over 70% of installed capacity, and with an increasing role played by geothermal. A total of 11 IPP projects accounted for 26% of capacity, most of which was diesel. However, this picture does not include a large number of IPP projects that are due to come on line by the end of 2018, including a large 310MW wind project at Lake Turkana. If these are completed this would reduce KenGen's share of capacity to a little under 50% (Mabea et al 2018)

Planning and procurement

Within the context of SSA, Kenya has reasonably good mechanisms in place for the planning of least-cost generation and transmission capacity. Planning had been located in the Ministry of Energy and Petroleum (MoEP), but the reforms of the 2000s moved the function into the newly created regulator (ERC). The regulator set up a dedicated Least Cost Power Development Planning Committee in 2009, with representatives from a range of agencies, including the MoEP, KenGen and the transmission company. However, this otherwise effective planning system has been undermined recently by pressures from the MoEP to inflate demand estimates. There is also no clear mechanism for allocating procurement between public and private sectors.

The typical process for awarding IPP tenders has mostly been competitive tendering, led by the distribution utility, the Kenya Power and Lighting Company (KPLC). Some renewable plants have been built under a feed-in tariff system, first introduced in 2008 then reformed in 2012 to be more effective. However, in some cases, such as emergency plants commissioned in 2000 and 2011, and more recent larger tenders for LNG and coal plants, and the Lake Turkana wind project, the government or KenGen has handled procurement through direct negotiations.

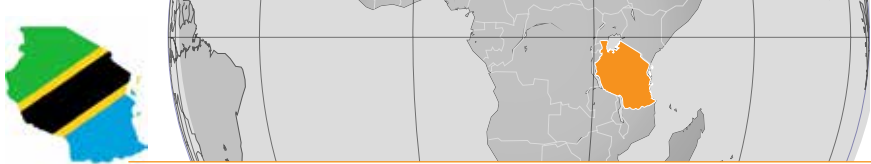
Creditworthiness of the offtaker

The offtaker in Kenya is currently the supply utility (KPLC) which still has a de facto monopoly, although there is currently a Bill in the Kenyan parliament which would introduce retail competition. KPLC is part-privatised, but with the government retaining a controlling share. Kenya's retail tariffs were increased significantly between 2000 and 2009, and pre-payment meters introduced in 2009, meaning that KPLC is in reasonable financial health, with many projects proceeding without formal guarantees, although it has still been vulnerable in drought years.

Regulation

The current regulator, the Energy Regulatory Commission (ERC) was established in the 2006 Act, and as noted above, has formal responsibility for least cost planning. However, the ERC has not been able to prevent the government from imposing its own agenda on the planning and procurement process, with a recent study (Oketch 2013) suggesting that the Commission lacks both resources and implementation powers.

3.3 Tanzania



Overview

Tanzania has also attracted some private sector in a number of IPPs, which in total make up over 40% of the country's capacity. However, a lack of transparent and competitive bidding processes has led to huge divergence in costs, and overall high tariffs for consumers. Poor management of what remains a vertically integrated state owned utility has meant high network losses and an offtaker in poor financial state.

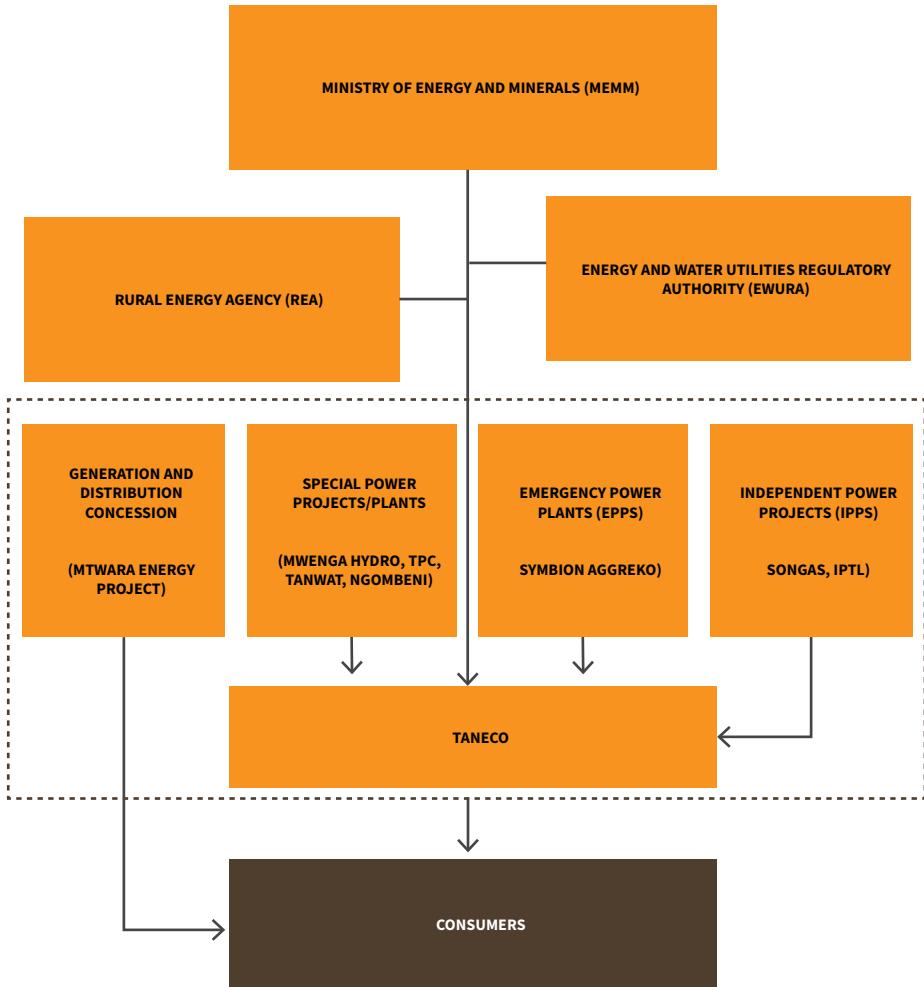
Reform history

There have been a number of attempts to reform the structure of Tanzania's electricity sector, going back to the early 1990s, but none of these have been sustained. However, private sector IPP investment has been allowed since the 1990s, and a regulator (EWURA) was created in 2001. In 2008 a new Electricity Act appeared to signal a new drive to increase private sector investment, but by the early 2010s the government was pushing ahead with plans for new state-owned plants.

Currently, the sector is still dominated by a vertically integrated state-owned utility, TANESCO, which exists alongside a number of privately owned projects (Figure 2). The current vision for Tanzania is for a radical expansion of installed capacity to 10 GW by 2025.

SEE FIGURE 3
ON NEXT PAGE..

Figure 3: Institutional arrangements in the Tanzanian electricity sector



NOTE: IPTL - Independent Power Tanzania Ltd - TANESCO - Tanzania Electric Supply Company - TPC Tanganyika Planting Company
Source: Eberhard et al 2016

IPP experience

In 2015 three large IPPs were operating, along with a number of emergency power plants (EPPs) which were contracted under conditions of power shortages in the period 2011-12, at high cost. All of these projects have been directly negotiated, with no internationally competitive tender processes. In addition, Tanzania has a number of Small Power Producer (SPP) projects that were contracted within a more standardised framework.

Planning and procurement

The Ministry of Energy and Minerals (MEM) is responsible for power sector planning, but historically this has been outsourced to TANESCO and consultants, with the regulator EWURA have support roles. According to Eberhard et al (2016), the planning process is characterized by politics rather than impartial, evidence-based decisions. There is a problem in the links between planning and procurement, as several master plans and strategies have been produced over the years, but they have quickly obsolesced, and it would appear that they have not directly informed procurement decisions.

Until recently, the MEM also played the lead role in receiving IPP bids. Many have reached MoU stage, but there has been limited capacity to assess value for money or undertake the negotiations necessary to bring these to fruition. As a result, very few projects have materialized. New rules introduced in 2015 were supposed to stop unsolicited proposals that fall outside of the current master plan, but in practice negotiations over unsolicited proposals have continued.

The history of IPP procurement in Tanzania has been controversial, with two early projects (Songas and IPTL) involving direct negotiation and major disputes that led to delays of years. A similar lack of transparency and competition was seen in the emergency procurement of the Symbion plant in 2006. The absence of competitive forces in the procurement of these projects has meant huge divergence in costs, the most expensive (IPTL) being roughly six times more costly than the cheapest (Songas).

However, more recently, the regulator EWURA has established a more transparent and predictable framework for procurement in the Small Power Producer's (SPP) programme, which shares some common features with Uganda's GETFiT programme. EWURA established a system of regulations, standardised contracts and fixed feed-in tariffs for power producers with a generation capacity of less than 10MW. SPP agreements also guarantee offtake by TANESCO of all electricity produced for at least 15 years. By creating a system that is transparent, predictable and light on bureaucracy, Tanzania has attracted significant investment interest. To date, more than 11 SPP agreements have been signed between domestic and foreign investors and TANESCO (Prinsloo and Bertelsmann-Scott 2017).

Creditworthiness of the offtaker

According to Eberhard et al (2016), tariffs in Tanzania roughly reflect TANESCO's running costs (US\$15/kWh in 2014), but do not cover capital costs and depreciation on TANESCO's

own plants. More generally, based on available financial statements, TANESCO's position is poor, with adverse impacts on the sector. Because of underinvestment in networks, losses are around 18% (Prinsloo and Bertelsmann-Scott 2017). While TANESCO has built some generation capacity, this has been funded by the government; the utility has no resources to finance its own future projects.

Regulation

Tanzania's regulator, Energy and Water Utilities Regulatory Authority (EWURA) was set up in 2001. The regulator is supposed to be independent, but in practice does not appear to have the power or capacity to fulfil its role. For example, the Electricity Rules that accompanied the 2008 Act give EWURA the power to review and approve the initiation of procurement of power projects, but it is not clear that the agency is sufficiently equipped to carry out this task, and TANESCO and the Ministry continue to conduct direct negotiations on projects.

4. SUMMARY OF LESSONS

- Develop the capacity for effective planning using tools such as Least Cost Power Development Plan (LCPDP) in one institution. Include other stakeholders in the planning process.
- Ensure a clear link between planning on the one hand, and investment and procurement decision on the other. Ideally have clear criteria for allocating investments between the public and private sectors.
- Clarify and streamline the procurement process, with one actor handling all bids.
- Where possible use competitive and transparent bidding processes (tenders, auctions), drawing on existing international experience in design.
- If direct negotiations are to be used, ensure specialised expert capacity exists in (or is available to) the relevant agency for effective negotiation, preferably on an open book basis with clear signalling on expected returns and use of benchmarks.
- Where necessary, work with development finance institutions to develop safeguards to provide confidence in offtake contracts.
- Work towards better management of the offtaking utility (including the reduction of distribution losses and revenue collection). Options include management contracts or concessions.
- Work towards tariffs that are on average cost-reflective.
- Establish an independent, well-resourced high quality regulator.
- Ensure a requirement for competitive procurement is written into legislation, with a requirement for the regulator to oversee enforcement.

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Correspondence on this Research Report can be sent to:
info@pmrczambia.net

Policy Monitoring and Research Centre (PMRC)
Plot No. 36c Sable Road, Kabulonga, Lusaka, Zambia
Private Bag KL 10
Tel: +260 211 269 717 | +260 979 015 660

www.pmrczambia.com

