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Political Economy of Africa's Power Sector

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Introduction

A reliable and financially sustainable electricity supply is a pre-requisite for successful development, in Africa, as elsewhere. Yet, despite decades of donor support and investment, Africa's power sector has persistently failed to deliver – households and businesses are poorly served, the budgets of key players in the supply chain are strained to breaking point, and the burden of underwriting the sector's losses poses a persistent threat to public sector finances.

So why the failure? Meeting demand for electricity is a complex technical and organisational challenge, requiring a degree of expertise and capacity that is not always available in poorer parts of the world. However, these inherent difficulties are compounded by political and economic incentives that often steer African countries away from the long-term investments and policy reforms that the sector needs. Amongst donors, there is now a growing recognition that solutions to Africa's power

sector problems can only be pursued in the context of a better understanding of the underlying political economy.

This policy brief examines what we mean by political economy, how it influences performance in the African power sector, and what guidance political economy analysis can give in the design of interventions aimed at improving that performance.

A political economy approach to the power sector

A political economy approach seeks (a) to understand why plans and policies that are apparently socially and economically desirable are often so difficult to implement, and (b) to find solutions that are feasible in the local political and institutional context though they may be technically second-best.[1]

In the past infrastructure sector specialists, whether within governments or development agencies, have often adopted a largely technocratic approach to development intervention. Investment proposals are developed together with the associated mechanisms for pricing, financing, and contracting, which while technically optimal will usually be both complex and costly. Implementation therefore creates opportunities for the multiple interests at play, both for rent-seeking and for blocking progress. In particular, those with political power are not disinterested parties. Some individuals or groups will fail to move the investment forward, or will obstruct it, because that is in their interests. Applied PEA recognises this. It explores the (often hidden) incentives and interests of all those actors whose collaboration is critical to success. In so doing it seeks to identify interventions that are both economically and politically sustainable.

This paper adopts a four stage framework in its applied PEA, as outlined in the table below. The remainder of this brief explores Africa's power sector using this framework. Given that the analysis is for a whole continent, this inevitably involves a high degree of generalisation. Precise answers to the questions posed by the framework will vary from country to country. Nevertheless, the framework should help to illuminate some of the salient issues.

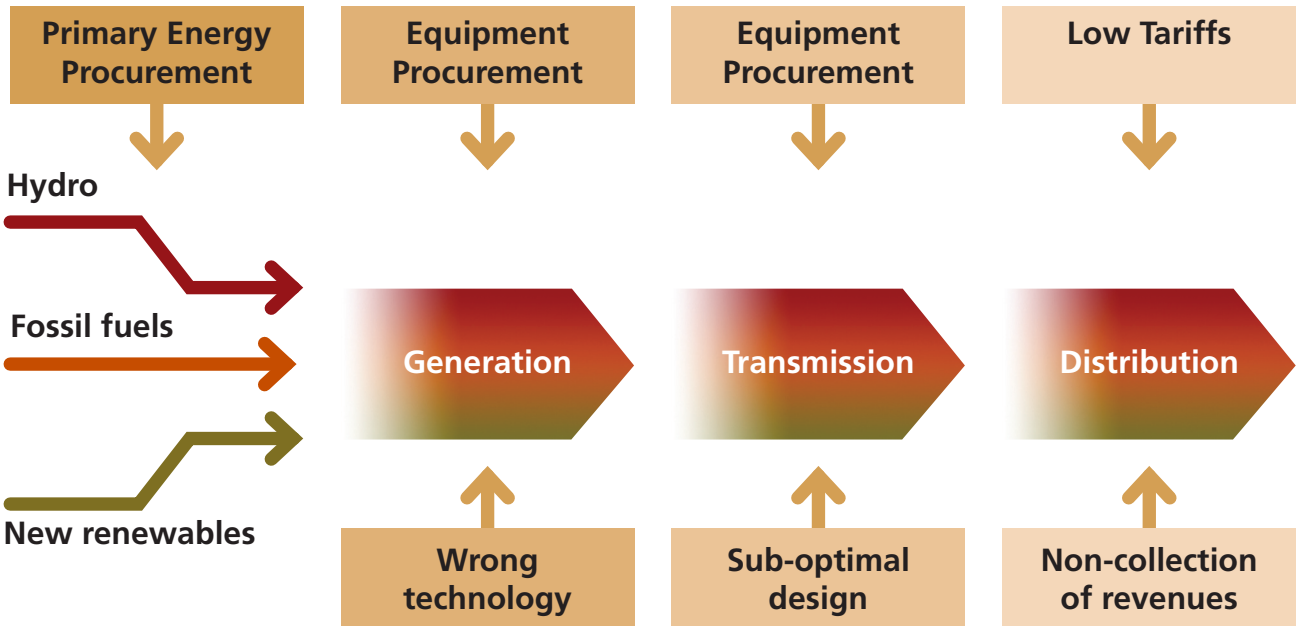
PEA framework

1. Problem identification	E.g. poor performance in the power sector
2. Diagnosis	What features of the political economy generate and contribute to the persistence of the problem?
3. Prognosis	Given the diagnosis, what is the potential for change, and what are the mostly likely pathways of change?
4. Interventions	How can particular actors help to shift the pattern of incentives in a manner that promotes desirable change?

Problems with Africa's power sector – identification

Overview

The main problem with Africa's power sector has already been alluded to in the introduction – namely, that service provision is unreliable, incapable of meeting both existing and potential demand, and financially unsustainable. The underlying political economy has the effect of keeping the costs of supply high, whilst maintaining a downward pressure on tariffs and the revenues collected from users. The resulting financial deficits combined with widespread corruption lead to investments that are either misdirected or insufficient. These failures relate to capital investments as well investments in operation and maintenance. The long and complex supply chain in grid electricity systems, from energy source to final electricity consumer, poses a particular challenge in that, if there is a crack-down against corruption in one part of the chain, opportunities still remain in other parts of the system. It does not matter where the toothpaste tube is pressed as long as the tooth paste rent comes out (see figure 1 below).



Rents can be extracted along the whole supply chain

Political pressures frequently undermine efforts to improve the power sector's performance. Unfavourable changes in price or supply can have profound effects on households and businesses, which creates political pressure to promise unsustainably low prices. The power sector is a big employer and political pressure to protect or increase jobs often leads to overstaffing. Pressures to award contracts and jobs to political supporters rather than to the most efficient contractors, individuals and technologies adds substantially to costs. Systems for competitive tender and employment on merit are often absent or ignored.

Coordinating supply and demand – long and short term challenges

The problems faced by Africa's power sector stem in part from challenges that are endemic to electricity supply the world over. They include the high up-front cost of building new capacity, the time it takes for new capacity to become fully operational, and long pay-back periods. This and the fact that future costs and revenues are often hard to predict, makes investment in the sector exceptionally risky – irrespective of whether the risk is borne by the private or the public sector. Volatility in the price of the fuels used to generate electricity, uncertainties about future electricity demand, and difficulties forecasting how technology will develop over time, magnify the risks, as do uncertainties about future interest and exchange rates. Many power sector investments in Africa are heavily dependent on external borrowing in foreign currency, whilst revenues are received in local currency.

Electricity generation, transmission and distribution is above all else a 'system' – failure in one part causes failure in the whole. The complexity of the system requires sophisticated long term, least cost expansion planning, made even more complex in recent years by the requirement to consider reducing green-house gas emissions. The extent of very high cost, usually diesel, emergency generation is an indicator of a country's inability to implement an appropriate expansion plan.

The capital requirements of investments in grid electricity make it hard for firms to enter and exit the sector, and those that occupy particular positions in the supply chain often enjoy a natural monopoly that can be exploited to the detriment of customers, if prices and service quality are not subject to appropriate regulation. Whilst official regulators are under pressure to keep the prices paid by users down, utilities demand prices that are high enough to cover costs and generate an acceptable return on investment.

Aside from long-term investment challenges, electricity systems have a number of unique characteristics. In particular, since electricity cannot easily be stored, hourly production needs to precisely match hourly demand. This task requires a sophisticated system of centralised control – usually a national grid, whose operators help maintain the balance. Ensuring that network maintenance and repair is carried out quickly and efficiently is also a logistical challenge that requires managers to prioritise between competing demands.

The policy environment has a big influence over both the short and long term challenges outlined above. An unstable policy environment and ad hoc political interference deter long-term investments and can make effective day to day management of the grid harder than it already is. The political economy of African countries often conspires to make policy toward the power sector short-sighted, incoherent, and prone to corruption. In the words of eminent African leaders, "Governments often view utilities primarily as sites of political patronage and vehicles for corruption".[2]

Politics and corruption

Whilst corruption is widespread, the characteristics of the power sector make it particularly vulnerable to such abuse. The scale at which grid electricity operates necessitates large financial flows and concentrates management and decision-making in the hands of a relatively small number of people who are well-placed to capture resulting rents. It therefore allows enormous private wealth to be accumulated by those who are capable of influencing the decision-making process. The size of individual investments (a new power station, for example) gives rise to large

and potentially very lucrative contracts. The influence that government officials have over the award of contracts, over the terms and conditions of those contracts, and over routine regulation of the sector, create significant opportunities for bribery, rent seeking, and political manoeuvring.

The regulatory environment, and the terms and conditions of infrastructure supply contracts, shape the distribution of costs, benefits, and associated risks between suppliers, consumers and the public purse. Without appropriate checks and balances they can easily be designed to favour one party to the detriment of all others. Such favouritism (illegal or not) is likely to encourage bad investments and discourage good ones, and risks embedding inefficiency far into the future of a country's power sector.

Political favouritism and corruption can exist all along the supply chain. In power generation and in the supply of fuel to power stations, public procurement can be skewed to favour particular lobbies and business interests. On the demand side certain geographical communities or industries can be singled out for special treatment, notably in relation to: maintenance and expansion of electricity distribution networks; electricity rationing during supply shortfalls; setting electricity tariffs; and enforcing bill payments.

Not all forms of favouritism are technically illegal or corrupt – public sector policy inevitably favours some groups over others. However, in the African power sector, outright corruption is acknowledged to be widespread. It is fostered by forces of political economy, which, even when operating within the law, are often at odds with what is needed for a sustained improvement in the sector's performance.

Political economy diagnosis

In seeking to diagnose the problems of Africa's power sector from a political economy perspective it is helpful to draw on existing theories of political economy, how they relate to Africa in particular, and their implications for the power sector.

Neo-patrimonialism

This refers to a system in which traditional patron-client relationships coexist with, and in many cases control, the formal structures of the modern state. The latter include the legislature, judiciary, and executive branches of the state, such as those responsible for the electricity sector. Politics, power, and economic wealth in a neo-patrimonial state are pursued by cultivating networks of patron-client relationships in which patrons bestow favours on their clients in exchange for political support (whether in national politics or the work-place). Rewards include privileged access to jobs, contracts, services, finance, natural resources, as well as other favours.

In much of Africa, for both historical and cultural reasons, the state is weaker, and patron-client relationships arguably more pervasive, than in many other parts of the world. The neo-patrimonial model is, therefore, particularly apt in the African context, where the instruments of state are often conspicuously subservient to private interests (rather than the public good), and where patron-client networks are often reinforced by deeply entrenched loyalties to tribe and kin.

The most powerful patrons generally sit at the apex of a country's political and economic structure and use the apparatus of the state to enrich themselves and to dispense the power and resources that actors lower down need in order maintain their own network of clients. Given the strength and ubiquity of these relationships in Africa, the formal rules of the state, including those that govern public sector organisations (such as electricity regulators), are often overridden when they come into conflict with patron-client obligations and the informal rules and codes of conduct that help underpin them. This is especially so when those responsible for upholding the formal rules are themselves deeply embedded in patron-client networks.

Given what we know about neo-patrimonial systems it is not surprising that actions and decisions in the African electricity sector – from major investment decisions to day to day operations – often undermine the sector's performance. A better understanding of patron-client networks can undoubtedly shed some light on why things are going wrong, and may help identify which players, if any, have sufficient influence, via their networks, to help bring about desirable change.

'Dominant' versus 'competitive' elites

Within the broad outlines of the neo-patrimonial model there does exist scope for variation. In some countries competition between political elites at the top of the power pyramid is greater than in others. This has led to two stylised models of African political economy. In one, the 'dominant' variety, political power is concentrated for a prolonged period of time in the hands a single party or leader (e.g. Rwanda and Ethiopia). In the alternative, 'competitive', variety, rival elites regularly compete for control over the reins of government (e.g. Kenya).

The respective implications of these two models for power sector performance and the problems identified earlier depend on various factors. The likelihood of patron-client obligations interfering with efficient decision-making in the sector could possibly be greater in the 'competitive' model than in the 'dominant' model. When there is intense political competition driven by frequent elections, the promise of immediate rewards through the patronage system may be more appealing, and more credible, to potential supporters (i.e. financiers, voters, and people capable of delivering votes) than any undertakings political candidates might give about solving the long-term problems of the country's electricity sector once (re)elected. Since promises of the latter kind are typically viewed with scepticism, the electoral strategies of both incumbent office holders, as well as aspiring ones, usually focus on immediate rewards, thereby perpetuating many of the problems that the sector struggles with as result of being used as a patronage tool.

In the 'dominant' model patronage is still important for political stability, but political leaders may be less bound by short-term political considerations. However, a lack of political competition may make them less accountable. Improved performance in the electricity sector therefore depends to some extent on whether the dominant elite perceive it to be in their own interests. Their motives and incentives are critical. If these are driven largely by a desire to further concentrate power and wealth, the prospects for reform are bleak. On the other hand, if leaders are motivated, at least in part, by a long term vision for their country's development, then there may be some room for optimism. This is because the power of these leaders may be sufficiently entrenched to permit a long-term view and great enough for them to overcome the vested interests that often thwart the implementation of long term goals.

Prognosis – potential pathways for progress

From the late 1980s onwards, and heavily influenced by the World Bank, donor support for Africa's power sector put most of its emphasis on creating an environment conducive to private sector investment. Support for state-owned enterprises was almost totally withdrawn. A long track-record of very poor performance supported a view that these enterprises were inherently inefficient, largely due to their limited accountability, protection from competition, and susceptibility to political interference. According to this view, the solution lay in privatisation and competitive tender, both for power generators at one end of the supply chain, and distribution at the other.

Unfortunately, these reforms have fallen far short of expectations. For reasons already discussed, privatisation has opened up new avenues for corruption, political interference continues, and the private sector remains reluctant to invest on the scale that is needed. State-owned firms continue to occupy positions all along the supply chain and the World Bank has now accepted that it was a mistake to pursue wholesale privatisation in the African context.[3] The new reality of power systems in Africa is that they are hybrid markets that combine both state owned enterprises (SOE) and independent power producers (IPP).

It is now recognised that a more flexible and nuanced approach to reform is required, one that "works with the grain", is tailored to local conditions, and which evolves and progresses gradually under the direction of local people who understand the political complexities.

Collective action

Large numbers of people in Africa would benefit from improvements in the electricity sector. Whether the reforms needed to bring about such improvements in a particular country ever take place, depends in part on whether those with power and influence perceive such reforms to be in their own interests, whether they are prepared to bear some of the costs of reform (e.g. the foregone benefits of patronage), and whether they can act collectively to share those costs between them in pursuit of a common goal. Successful collective action depends upon building trust between different groups. It requires that actors with potentially competing short-term interests credibly commit to abiding by a new set of rules, and that there are enforcement mechanisms to prevent 'free-riding'. These requirements apply throughout the administrative hierarchy, from the highest echelons of political competition down to the workplace.

Explicitly treating the problems of the electricity sector as a collective action problem, and hence in principle resolvable by through institutional innovation, could help in the search for solutions. However, solutions are likely to differ considerably from one country to another. For example, in the 'dominant' model of political economy, some aspects of rule enforcement might be easier to achieve than in the more 'competitive' model, providing leaders at the top are genuinely interested in pursuing reform.

Transparency and discretion

In donor models of reform, increasing accountability, and thus increasing transparency, have always been central, especially in relation to rules-based competitive tendering for public sector contracts, but also more generally in relation to freedom of information vis-à-vis public sector

activities. However, in Africa, procurement deals often lack transparency and public disclosure is often resisted, partly to conceal corrupt practices, but also because following formal procedures can be costly and time consuming.

A better informed public might help create pressure for greater efficiency and help reduce corruption. It could also play an important role in enforcing commitment to collective agreements. At the same time there may be circumstances when essential participants will only agree to engage in reform, if some of their dealings with the electricity sector can continue to take place informally, with discretion and in relative secrecy.

Potential drivers of change

The political and economic circumstances (domestic and international) that shape the interests, incentives, and actions of the electricity sector's key stakeholders are constantly changing. These changes could provide opportunities for successful collective action in the future, if already committed reformers are ready to capitalise on them. A change of circumstances could at some point make it possible to build a critical mass of actors with sufficient incentive to cooperate in effective reform. In some countries, such as Nigeria and South Africa, there is already evidence that this might be happening as the economic and political costs of underinvestment have become more punitive for political leaderships.

Opportunities are likely to come from various sources. A sudden crisis can sometimes be used to bring people together for the common good. Modern energy services are critical to overcoming and preventing crises. A concerted effort to tackle the power sector's problems might, therefore, arise from sufficient people being convinced of the sector's role in protecting a country from the economic, environmental, social, and political crises that so frequently confront African countries.

The changing donor environment could also create opportunities. These may come from a renewed willingness amongst some donors (notably the US) to finance power sector investments and the prospect of a more flexible approach to conditionality, combined with (and perhaps stimulated by) the entry of new players, notably China. Funding relating to climate change mitigation and adaptation may also change the configuration and relative influence of existing power sector interests, threatening those vested in coal and diesel fuel generators, whilst creating opportunities for renewables and other relatively low-carbon technologies.

Interventions

Many of the interventions that have become standards, both in political economy analysis and power sector reform, still have force. Elements of the traditional approaches to power sector reform still need to be pursued. These are likely to include:

- Depoliticising tariff setting by linking electricity prices to a basket of goods (such as oil, coal etc) so that tariff changes are frequent, small and "technical"
- Creating Special Purpose Vehicles to remove strategic investments from day to day politics
- Generating bankable Power Purchase Agreements with sovereign guarantees
- Providing technical assistance for least cost expansion planning, international power trade options, etc

- Continued pressure for supervised international competitive tendering (which are frequently undermined by private sector investors, including, but not exclusively, those from China)
- Renewed efforts in northern industrialised countries to prevent corruption in their own companies

Similarly, the conventional response to overcoming barriers of political economy are likely to be worth the investment. These interventions include:

- Building local capacity for PEA
- Developing coalitions for reform
- Building public awareness
- Undertaking impact distribution analyses to identify who in the ruling elite would benefit from more secure and profitable electricity systems

However, failure over the last 30 years to produce financially viable utilities that are able to supply reliable power to the mass of the population suggests that the task will be difficult and that new thinking is required.

The application of a political economy approach to power sector reform in Zambia

A political economy approach was adopted by the World Bank to start a process of power sector reform in Zambia. Beginning in the mid-1990s until 2003, the World Bank tried to negotiate its standard power sector reform package, with little success. In 2003 the Government rejected the World Bank standard package of power sector reform (unbundling), terminated negotiations with a foreign independent power producer, and started negotiations with the Chinese for a 35 MW plant producing power at an estimated 30 US cents per kWh cost, while not seeking to raise the consumer tariff from the traditional 3 cents/kWh.

The regulatory authorities were found to be increasingly competent technically, but the "political rules of the game [did not] give that competence space to act professionally". It was also found that the realignment of residential tariffs would be politically difficult as was any means of reducing ZESCO staff costs. Therefore, a formidable constituency against change was created. It was concluded that "With weak institutions, Zambia's political leaders are likely to rapidly retreat from any actions that provoke strong countervailing reaction. And the reactions that matter most will be those from other parts of the political and social elites".

When this strategy was later subject to a World Bank review some years later they found that the new policy had indeed successfully broken the log-jam of power sector reform. For Levy the policy implication was clear: "move rapidly to lock in new generating capacity on the basis of full-cost pricing for the increment by mining companies. Do not hold such investment hostage to a broader reform of the pricing regime".[4]

A number of analysts have come to this conclusion and the search is now on for a new set of interventions that are 'politically smart and locally led', and that are able to produce the electricity required for both growth and poverty reduction. The slow progress in power sector reform may appear to be so long standing and so entrenched that change is unlikely. But political scientists offer some hope by drawing attention to the importance of "contingency", in the sense that there are possible future events or circumstances that could provide the necessary openings for progress, but which cannot be predicted with certainty.

Recent experience suggests a number of areas where opportunities might be found. First, some new institutional forms are emerging that seem able to circumvent tradition barriers to change. These can be seen, for example, in the achievements of the Rural Electrification Board in Bangladesh, and in the successful auctions in South Africa for the supply of new large scale generation from renewable energy.

Second, the electricity sector is currently undergoing significant technical innovation. While technical fixes alone are rarely enough on their own, the current spate of innovations do seem to have the potential to 'disrupt' traditional power relations. These include so-called "smart grids", automatic and remote metering, cost competitive generation from Photovoltaics and Wind turbines connected to the grid, and pay-as-you-go smart phone billing.

These ideas and the many more that are required will need to be locally generated and owned. However, history provides a stark reminder that when corruption is reduced at one point in the supply chain, it appears to arise in another.

Conclusions

It is increasingly clear that there is no blueprint for successful power sector reform. Different countries need different types of intervention that reflect both political realities as well as other context-specific factors. Political economy analysis suggests that successfully identifying and designing appropriate interventions depends upon local capacity to analyse problems, experiment with solutions, and learn from mistakes. Donors can play an important role in helping to build capacity (as well as provide much needed finance and technical assistance) but evidence suggests that they need to be more flexible than they have been in the past. A gradualist, iterative approach to improving performance is likely to be more fruitful than overly ambitious programmes based upon internationally recognised best practice.

[1]Approaches to political economy analysis (PEA) are summarised in an annotated bibliography: http://thepolicypractice.com/onlinelibrary/.

[2]Kofi Annan's Africa Progress Panel, "Seizing Africa's Energy and Climate Opportunities", Report for 2015, ISBN 978-2-9700821-6-3, page 18.

[3]Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector, document 79597, no date, probably 2013, page 9.

[4]Brian Levy, "The political economy of infrastructure reform in Zambia", University of Cape Town Business School, mimeo 2007. And Monica Beuran, Gaël Raballand, and Kapil Kapoor "Political Economy Studies: Are they Actionable?, Lessons from Zambia", World Bank WPS 5656 May 2011.

About this policy brief and The Policy Practice

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