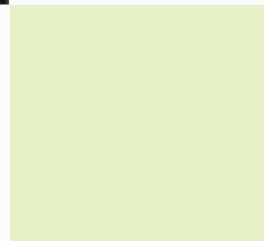




Assessment of power sector reforms in Africa

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Assessment of Power Sector Reforms in Africa

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IDC



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Abbreviations

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Executive Summary

I. Origin, objectives and content of the study

The present study was undertaken on the request of UPDEA (Union of Producers, Transporters and Distributors of Electrical Energy in Africa). The study was financed by the ACP Business Climate facility (BizClim), a joint initiative of the European Commission and the ACP Group of States. The study aims mainly at providing the responsible officials in the Electricity sector of Africa with the precise and up-to-date information on reforms, and a dossier on the reforms taken in the electricity sector of Africa. The aim of this study is to present the findings and, if possible, numeric assessment elements of the reforms, undertaken in 19 African countries, and their effects. Besides, this study aims at defining new points for reflection by observing the real life experiences. In this report we present the results of the analysis and the suggestions, which we consider to be the most significant.

The Terms of Reference define the expectations as to the performance of this study in the following way:

- Description of the reform implementation, taking into consideration the economic, social and political context.
- Profound examination of the role of the participants in the reforms realized (initiators, pilots, facilitators) and determination of the key factors of success or failure.
- Analysis of the trends in the financing of investments in the sector, and identification of the conditions essential for attracting investments.
- Evaluation of the impact of the reforms in the sector and analysis of the existing and potential problems.
- Precise and realistic suggestions to increase investments and the service levels in the networks.

In addition, the main conclusions of this study were presented to the interested parties of this sector at the Conference in Brussels on March 27 and 28, 2008 on the topic "Electricity in Africa: Do the reforms meet the demands of the sector?"

II. Methodology

The study was conducted in the following way:

- The kick-off meeting was held in the UPDEA headquarters in Abidjan at the end of September, 2007.

- The Consultant prepared the questionnaire and passed it over to the officials responsible for the power sector in each of the 19 countries selected by the UPDEA.
- The questionnaires were to be completed by the local interested parties (Operators, Regulators, Ministries, etc.) as well as by the consultants who went on field trips to the selected countries to validate the obtained data and to have the necessary meetings.
- Realization of field trips to the countries and data collection
- Analysis and preparation of the report
- Presentation of the principal results at the workshop in Brussels.

Comments on the methodology are given in Annex 22.2 to this Report.

III. **Developments in the African power sector**

IV. **The key findings of the study**

1. **Three categories of countries, three rationales for reforms**

The results of the study showed that it is useful for the analysis to distinguish three groups of countries. Each group is characterized by the predominance of one or another aim of the reforms.

- The pursuit of the effectiveness by way of creation and reinforcement of competition, wherever possible;
- The priority search for external financing, notably concessionary;
- The pursuit of the effectiveness by way of the structure of reforms and/or reforms of the utility / industry capital structure / ownership.

It seems that reforms are prepared and implemented differently according to these three categories.

1. Even if the majority of the officials of the studied countries are convinced of the interest of the real and loyal competition, there is no competition "on the market" in any of the countries within our attention. For most of them the only possible competition is the competition "for the market". Nevertheless, certain countries consider the effective competition between the producers and the providers possible in the future, being the main source of the performance improvement. Predominant aim of their reforms is gradual creation of the more open and competitive markets. Only

Commentaire [m1]: A graph would help.

countries with important markets and/or those which are now part of or planning to enter the international interconnections belong to this group: They are Algeria, Egypt and South Africa. At present only Algeria takes clear decisions and acts according to this perspective, but it is possible that the other countries will follow. The priority is given to the medium term policy leading to the gradual formation of such a reasonable approach which prioritises security and continuity of service provision.

- Institutional frameworks generally include immediate or terminal juridical liberalisation of power production and delivery, third party access to the power system, and unbundling of the activities. Thus, it is the scheme comparable with that of the European Union, where the major objective is the creation of the power market, and the question of ownership and possible privatization is not central.
 - The reform is implemented without any rush or dramatization, and its evolution is controlled.
 - The approach is progressive and pragmatic. As to this, we'd like to note that Algeria and Egypt, being the richest countries form our selection and also almost 100 % electrified, continue to subsidize the consumers.
2. The second group constitutes of countries with very feeble markets and revenues. The major constraint is financing. The priority for these countries is the definition of the institutional frameworks, adapted to the financial organisations' requirements and their instruments. For example Mali, Guinea and Senegal belong to this category. The reform process is often rapid if not brutal. It is experienced rather as a constraint and not as an opportunity. In general, the state of the sector after the reforms or attempts at the reforms does not improve, but sometimes even degrades.
 3. The third group constitutes of the countries, convinced that structural reforms and privatization of the management are the best solutions for performance improvement. These are mainly the countries with the intermediate revenue, and the reform results in these countries can be considered rather positive (Uganda, Gabon, Cameroon, and Ivory Coast).

2. Preliminary results

For each country the results analysis was performed according to the initial objectives of the reform.

2.1 Objective: Development of the installed capacity

1. In many countries the reforms benefited Independent Power Producers (IPPs): Uganda, Senegal, Ivory Coast, Egypt, etc.

2. The cost of electricity provided by IPPs is often considered excessive. We do not observe this situation in the countries with good economic potential and good climate for business (Egypt and Ivory Coast). It is justified in the countries with high business risks or when the correlation of forces is in favour of the investor (urgency, weak competition, investment interdiction for the original operator). In certain countries weak negotiations capacity or insufficient control of the legislation compliance can also generate unfavourable / unfair contracts.
3. The importance and transparency of the institutional framework of the production sector for private investors is not questioned. The opportunity and feasibility of the projects are to be analysed. This analysis is carried out with the consideration of the proper parameters for different countries and the possibility of the financial alternatives pertaining to mobilization.
4. The delays in the reform realization and in setting up the first IPP delayed the commissioning of the programmed units. It was very prejudicial for such countries as Senegal.
5. The delays attributable to the financing organizations also provoked the postponement of some investments, and/or with really prejudicial terms: E.g. Project Energy II in Guinea, and annulment of the projects in Togo.
6. In certain countries (Gabon, Cameroon) the installation of the new thermal power capacities was executed urgently because of constraints due to the bad water supply. The development of the hydroelectric power stations after the privatization was problematic. On the one hand, it is impossible to attract an IPP, and on the other hand, the duration of the loan payment exceeds the concession residual period, so the State should be in charge of such development projects.

Commentaire [m2]: Graph illustrating the point

Uganda

2.2 Objective: Expansion of grids and access to electricity

1. In the cases when we were able to measure the results, the impact of the privatisations or private concessions on the access to electricity was not significant. (The number of the consumers evolves more favourably but it does not reflect the same realities). It is probably because in the countries

with the low level of revenue, the private sector is not interested in the development of networks used by the small consumers. Probably in the future the possibility of the cooperation on the terms of PPP (Public Private Partnership) should be considered, as well as the more realistic distribution of risks between the public and private sectors, while realizing the projects of networks expansion in these countries. In some countries (Gabon, Cameroon) the objectives of making access to electricity more widespread and increasing the number of consumers were reflected in the contracts and it permitted the achievement of some reasonable results.

2. Countries which rapidly developed their networks achieved it mainly under public financing / regulation (South Africa, Senegal after the re-nationalization), and with the objectives being more social than economic.
3. Leasing contracts (e.g. Guinea) did not give better results because of the financial non profitability of the sector and the absence of the public resources.

Gabon

2.3 Improvement of the sector performance

1. It is impossible to make any general conclusions. The results depend on the implementation conditions.
2. The management contract in Tanzania did not have a favourable impact, while the management contract in Lesotho had very good results. The success of the management contract in Lesotho is explained, in particular, by the effectiveness of the monitoring / supervision system, the quality and transparency of the reporting system, and the sensitivity of the selected managers to the local reality.
3. The privatisations in Uganda, Gabon, Cameroon and Kenya (only minor private capital participation) permitted considerable improvement in many key performance indicators. The privatisation processes in Mali, Senegal, and Togo were more or less rapidly stopped due to the above mentioned failures.

4. Concessions generally gave good results in the first years of reforms. However, concession contracts were cancelled in Mali, Senegal and Togo in later years.
5. Leasing was developing with favourable results in the first years in Ivory Coast and with unfavourable results in Guinea.
6. In case of maintaining the historic regulation and distribution mode, the indicators did not show any significant evolution: Egypt, South Africa, and Algeria.

**Management contracts can lead to favourable results
The case of Lesotho**

Power sector reforms in Lesotho commenced in the late 1990s, as agreed upon by the Government of Lesotho (GOL) and the World Bank Group, and other institutions like the African Development Bank (ADB) and European Investment Bank (EIB). In the absence of elaborate power sector policies, the GOL approved and issued Power Sector Policy Statements in 1998, and then in October 2000 whilst the Lesotho Utilities (Sector) Reform Project (LURP) was being prepared. The implementation agency for the LURP was the Privatisation Unit (PU), which had been established in November 1995 under a Privatisation Act, with the main objective of privatising previously identified GOL-owned Public Enterprises (PEs). The PU, which reports to the Ministry of Finance & Planning, was assisted by an LEC restructuring Steering Committee (SC).

The Lesotho Electricity Authority Act 2002 provided the basis for the establishment of the Lesotho Electricity authority (LEA, operational in August 2004). The LEC Vesting & Establishment Act 2006, transformed LEC into a company and simultaneously repealed the 1969 LEC Act. The LEA Amendment Act 2006 then allowed LEA to issue its first licenses to LEC (transmission, distribution and supply) and LHDA (generation). A Rural Electrification Unit (REU) was established in 2004 under the Department of Energy, Ministry of Natural Resources; focusing on the implementation of Electricity Access Pilot Projects (EAPPs): A Rural Electrification Working Group (REWG), including private sector and civil society representatives, was also established to advise GOL.

As a private sector entity could not be found to take over LEC (over a 20-year public service concession period), a Management Contractor and a Sales Advisory Group (SAG) were recruited through International Competitive Bidding (ICB).

The quantitative impact of the reforms can be summarised as follows:

- LEC right-sized and performance culture institutionalised: 164 (out of 620) staff retrenched in 2001; 584 staff in 2007 despite growth and expansion.
- Customer numbers more than doubled (21, 780 to 51, 881): Geographic Positioning System widely used.
- Almost all credit meters changed to pre-payment meters : Over 10 local private vending agents established.
- Turn-over more than doubled (M113 to M250 Million).

- Average total system losses almost halved (22 to 13%)
- 2004-06 Tariff Transition Plan, after 10 years with no increases: Increases (up to 18%) and rebalancing (load factors up).
- LEC transformed from a loss-making utility (-M45.8 Million in 2000/01) to a very viable and profitable utility (M37 million in 2005/06, and projected to continue).

Strong political and effective communication between key stakeholders has been critical for reforms to succeed (e.g. tariff increases and change of sale policy). Experience shows that ownership change is not absolutely necessary for reforms to succeed. Board and management autonomy and skills, and timely availability of resources is what matters. Also, deployment of appropriate technology and sector management best practices is important. Vigilance is needed in monitoring (management) contracts to achieve results (e.g. advisors and steering committee for target setting and achievement verification).

2.4 Conclusions

- The results do not permit to establish clear correlation between the type of the reform and the degree of its success.
- It is possible to identify the mistakes and to formulate the recommendations as a result of the analyses of the success and failure factors specific for each particular country.

3. **Principal factors of failure**

3.1 Errors in the concept caused by the absence of realism

The failures revealed are explained by the implementation conditions and very rarely by the choice of reform itself. The cause for the errors identified at the stage of the reform concept development was solely the absence of realism. We'd like to mention two frequent types of illusions.

- One of the illusions is the possibility of the competition in the market when it turns out to be impossible even in the medium term perspective. Even in the relatively rich countries, such as Egypt and Algeria, the investors refuse to take upon themselves any risk, but for the exploitation risk. All the observed IPPs work in the "take or pay" mode (except for Algeria where other guarantee mechanisms exist). In this case the unbundling of the activities of the operator or the transporters or the distributor are not obligatory. It depends on the strategic (e.g. privatisation of the distribution) or economic choices. For the restrained markets the interest of the total unbundling is not so evident.

- The second illusion is to believe or to make other people believe that privatisation (or private concession) is the only solution of the sector problems (as it was in Mali and Senegal). The governments of different countries tend to exaggerate during the discussion of their projects, naturally controversial, liberalization and privatisation. The experience showed that privatisation did not always improve the investment capacity of the sector; especially as to the electrical networks (the strategic investor does not give its guarantee to the local company). Unavoidable disillusionment results in the doubts cast on the very idea of privatisation, and sometimes other aspects of the reform, by certain interested parties. Privatisation can improve the performance of the sector but generally privatisation as it is cannot solve the problem of the breakeven activity of the sector or show the way out of the difficult economic situation.

Contrary to the widespread idea, we stated that the reform choice was often determined by the country's context even if it was not explicit in the list of the choice motifs. The real problem is rather the absence of realism in determining contract objectives.

Senegal

3.2 The characteristics of the reform did not allow/ assure durable break-even activity in the sector.

The failure of some privatisations (Mali) seems in many respects conditioned by the fact that the investment engagements, specified in the concession contracts, stipulated raising electricity prices to certain levels, which was unacceptable for the consumers and the political authorities. In cases when investments are made in the smoothing of the situation or its development are important, it can be illusory to plan to ensure the sector balance at the expense of the tariff only. The choice of the concession should be based on the proved results of the preliminary financial and tariff modelling, so as to determine realistic engagements in the future. If the modelling results show that to ensure durable equilibrium the tariff rates would be incompatible with the paying capacity of the consumers, the decision makers should determine the way of the deficit "financing": E.g. by the tax payers in case of subventions (Algeria, Egypt), or by the future generations in case of the temporary non-renovation of the assets according to the generally accepted norms (Ivory Coast for a number of years).

Due to the absence of the modelling and clarity, conflicts between the concession assigner and the concessionaire are inevitable and destructive. The State, which sometimes does not have enough political courage, should be in the first place made responsible for such failures. It should be noted that the reform was based on the implicit principle that the urban consumer, connected to the grid, would bear the total costs of power production / supply.

If we suppose that the price of oil will exceed 100\$ per barrel for a long time, then the political authorities of the most fragile countries will have to question the viability of this principle. It is not economically irrational to fund part of the power supply costs, corresponding to the external social and economic factors. It is interesting to note that the richest of the examined countries subsidise many of their consumers. This is a political question of determining budget priorities. The attitude of the financial organizations to this question can also evolve.

Mali

3.3 Non-securing of operation in short-term outlook

The reforms give positive effects only with time. On the contrary, they can lead to the rapid sector deterioration for two reasons:

- Temporary cancellation of the investment programmes into the sector capacity. Such an inconvenient situation is observed in many countries where IPP approach was recommended or required by the reform. Creation of the corresponding institutional frameworks and organization of tenders can demand more than 5 years and the country can suffer the insufficiency of (generation) capacity. It seems that promoters of the reform and the financial institutions concerned should accept the fact of the necessity to define the rules of the game and adapt them to the requirement of securing adequate capacity during any transition period.
- Social conflicts open or, even become worse, in the beginning of the privatisation. They can lead to sabotage or to the power cut-off of separate objects (Cameroon). It can be explained by the errors committed during the regulation of the privatisation process (communication, preliminary financial improvement, social regulation). It can be stated that at the moment of establishing control over the unprofitable enterprises, the best professional practices are not always

used. Notably it is revealed in the motivation mechanisms for the personnel and the management. Refusal to utilize the existing key competencies (Cameroon in the first years), excessive number of expatriate personnel of the buyers of the unprofitable enterprise (e.g. 18 executives in Mali, for example), bad communication, etcetera.

In case of considerable degradation of the electrical system in a short time, successful reform will become much more difficult.

Cameroon

3.4 Excessive rigidity

It is surprising that during the choice of the reform so little attention is paid to the possible changes of the environment and, consequently, to the possible changes in the priorities that might take place. So, it seems to us that excessive rigidity can have a negative impact in the countries that can risk the changes of their environment. Monetary crisis can lead the government to the necessity to prioritize foreign currency economy. It was because of the serious devaluation of its currency in 2003, that Egypt decided to cancel its programme of creating IPPs. It was necessary to have institutional frameworks that permitted it (first Senegal scheme, for example, did not permit public investments into production).

The social and political crisis will prioritize continuity of the service provision and will sideline the development requirements. The concessionaire in this case will not be able to ensure the continuity of the service as easily as a tenant. If we look at the case of Ivory Coast, many people today think that introduction of the concession contracts would have been preferable from the very beginning. Nevertheless, thanks to the introduction of the leasing principle, reliability of the power utility was ensured during the recent troubles.

Egypt

3.5 Regulation of the privatization process: Ineffective

stimulation system

All the participants of this process are in general incited to sign the contract or the concession rapidly, especially because such contracts are the condition for obtaining other international aid.

- "Participating Consultants / Banks" have natural interest in the conclusion of the concession (part of the remuneration as per result).
- The responsible officials of the financial organizations have rigid schedules and control the terms of compliance.
- The countries are also interested in concluding arrangements to get access to the funding.

On the other hand there are few direct instruments for the stimulation of the privatisation process participants. In case of failure the sector will be penalized, but (often) not those in charge of the privatisation. In case of privatisation, the priority objective of the preliminary stage should be modified: The study of the conditions ensuring the success after the privatisation, this complex and important work, which is largely neglected, should be a priority.

Example

3.6 Badly defined and badly implemented contracts

Numerous concession contracts were not studied sufficiently. Multiple uncertainties and ambiguities in the contracts generate conflicts between the parties and, with time, their termination. The very notion of the contract on the delegation of the public utility as well as privatisation as per concession contract are often understood incorrectly and/or insufficiently. For example, we often heard such strange commentary: "there is no activity report, the enterprise is private". And, vice versa, in some countries it is difficult to eradicate the habit to intrude into the activity of the private enterprise.

Example

4. Other lessons

It is difficult to modify the contracts between the public sector and the private enterprises through negotiations (e.g. demand for the sharing of yearly revenue because of the increased oil prices, within the frame of the indexation of the gas purchasing contract as to the international indicators : in Ivory Coast, for example) or while adapting to the new realities (the State reproaches private companies for the non-compliance of their obligations, when one of the conditions was not realized : E.g. Delays in the investments for the programme Energy II in Guinea, suspension of the IDA loan payments provided in Togo, etc.). In the same way, all the attempts to turn leasing contracts into concession contracts were not successful. A priori, leasing (contracts) cannot be considered a transitional solution.

In certain cases, the refusal of the Concessionaire to get engaged into certain projects with the long time return of investments can lead the Government to the necessity of the direct loans, while the sector functions in the concession mode with the privatisation of the assets. This problem of incompatibility between the concession duration and the investment period was solved in many European countries: Either by the depreciation amortization practice, or by the contract clause on the concession provider conceding to pay the concessionaire the indemnity for the unamortized property / assets.

Example

V. New trends

- The amounts of the international finance allotted for the development of the energy / power sector in Africa have increased considerably lately; including emerging donors.
- The international priority is given to regional projects: E.g. big hydroelectric projects, High Voltage interconnections.
- The traditional financial institutions have become more careful and pragmatic in their approach to the reforms in the electricity sector.

- At present, the process of the real regional electricity markets formation has been launched well.
- It seems that the increase in oil (product) prices will continue in the future.

The complexity of these hard realities / trends will certainly lead to the reinforcement of the State's responsibility (investments which cannot be financed by the private sector, development of regional projects, new principles of the sector financing, etc....).

VI. Role of the participants in the reforms realized (initiators, pilots, facilitators)

VII. Return to the past or adaptation of the reforms

Often modest or disappointing results of the first reforms make some responsible officials actively support the return to the State financing of the sector development. Such a position is reinforced by the significant prudence shown by the traditional international investors and by the return of the development institutions into the sector.

Determination of the system most favourable for the efficient mobilization of the financial resources is undoubtedly the prerogative of each particular country. Certain countries with undeveloped markets can consider that concession does not adapt to the existing context, and the necessary development requires arbitrary programmes of State investments. It is also possible to imagine such forms of the PPP that can be adapted to the existing reality. Nevertheless, it would be disappointing to abandon other aims of the reform. For such countries as Algeria, Egypt, South Africa the principal motivation of the reform, namely creation of a competitive electricity market remains topical. In the least rich countries, concern of the performance efficiency is reinforced by the increasing fuel prices. So it is impossible to avoid the question of the advantages of private sector participation. And there is no place for ideology in this matter.

New trends reinforce the necessity of the reforms to improve the efficiency of the system. But this reform should meet the requirements of efficiency and also take into account social, economic and environmental factors.

VIII. Road-map for attracting investors in the power sector in Africa

IX. ANNEXES: SYNOPTIC TABLES, KEY SPECIFICATIONS AND RESULTS PER COUNTRY

The **table 22.1** is aimed to show a visual synthesis of the results of the reforms in the studied countries.

The relative weight of the objectives has been estimated on the basis of the collected information (documents and interviews). It has been valued by a coefficient (« weight » in the first column of each country) ranked from 0 (not an objective of the reform) to 5 (main objective). In front of each objective, the table shows the assessment of the results (Has this objective been met?). These estimates are partially subjective and are proposed under the only responsibility of the consultant



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