

**REPORT ON THE WORKSHOP ON UGANDA  
POWER SECTOR REFORM AND  
REGULATION STRATEGY  
OCTOBER 20-21, 1999**

**Venue: Imperial Botanical Beach Hotel Entebbe**

Joint UNDP/World Bank Energy Sector Management Assistance Programme  
(ESMAP)

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## **Acknowledgement**

This report has been compiled by a team comprising of Messrs. Mubiru Paul, Emmanuel Nyirikindi and Arthur Mugyenzi, Renewable Energy Development Center, on behalf of the World Bank.

Special thanks go to Mangesh Hoskote and Linda Walker-Adigwe for facilitating the workshop.

# Summary and Agenda

## Technical Workshop on Uganda's Power Sector Reform and Regulation Strategy

### Objectives

- (a) Assist the Ugandan Power Sector Reform Committee (UPSRC) in assessing and evaluating commercial interfaces in a restructured power sector.
- (b) Assist the UPSRC in disseminating an implementation strategy for power sector reform and regulation.
- (c) To build an understanding of financial arrangements in independent power projects, project finance and contingent liability management.

### Background

An energy assessment financed by ESMAP was completed in 1997, and subsequently a stakeholders workshop was conducted in 1998. Pursuant to the 1998 ESMAP workshop, the Government of Uganda (GOU) requested, and ESMAP agreed, follow-up technical assistance in disseminating Government's power sector reform strategy. This follow-on ESMAP project launch was put on hold pending government's completion of a report on power sector reform and implementation strategy that required Cabinet approval. In June 1999 the Cabinet approved the government's power sector reform strategy. The GOU requests ESMAP to facilitate a stakeholders' consultation/dissemination of the government's power sector reform programme.

The Uganda power sector reform strategy envisions an industry structure in which generation, transmission, and distribution functions are separated and concessioned to the private sector. The strategy also includes establishment of an independent regulatory agency, development of new hydropower projects by the private sector, and letting out distribution concessions to the private sector.

The restructuring of Uganda's power sector is expected to lead to international private capital flows which will require implicit or explicit state guarantees for the performance of contractual obligations. While fiscal risks stemming from government guarantees are impossible to avoid, there are qualitative and quantitative methods to recognize, control, and prudently manage those risks.

The proposed technical workshop aims to build an understanding of interlinkages of power sector reform and regulation with regard to market design and operations, vesting contracts between generators and distributors, international experience with reform implementation and consumer education programs, and contingent liability management of government guarantees.

**Organizers:** Ministry of Energy and Mineral Development, and Joint World Bank-UNDP Energy Sector Management Assistance Program (ESMAP)

**Participants:** Members of Power Sector Reform Committee; Members of Cabinet Committee on Economic Affairs and Government Assurance; other stakeholders parties

**Venue:** Entebbe, Uganda







# 1

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## Background

1.1 The World Bank – UNDP Energy Sector Management Assistance Program (ESMAP) in conjunction with the Ministry of Energy and Mineral Development conducted a two-day Technical Workshop on Uganda’s Power Sector Reform and Regulation Strategy from 20-21 October 1999. The workshop was a follow-up of a stakeholders workshop which was conducted in 1998 after an energy assessment financed by ESMAP.

1.2 The Uganda power sector reform strategy envisions an industry structure in which the transmission and distribution functions are separated. Development of new hydropower projects will be done by the private sector and distribution concessions will be let out to the private sector. The strategy also includes establishment of an independent regulatory authority for the electricity industry.

### Objectives of the Workshop

1.3 The workshop was aimed at building an understanding of inter linkages of power sector reform and regulation with regard to market design and vesting contracts between generators and distributors, international experience with reform implementation and consumer education programs and contingent liability management of government guarantees. In particular the workshop aimed at:

- assisting the Uganda Power Sector Reform Committee (UPSRC) in assessing and evaluating commercial interface in a restructured power sector;
- assisting the UPSRC in disseminating an implementation strategy for power sector reform and regulation; and
- building an understanding of financial arrangements in independent power projects, project finance and contingent liability management.

### Workshop participation

1.2 The workshop attracted a total of 45 participants drawn from government ministries, donors, potential IPP/SPPs, Members of Parliament, UEB, Utility Reform Unit and resource persons drawn from the World Bank and other countries.

1.3 The Uganda Power Sector Reform and Regulation Strategy Workshop was held at the Imperial Botanical Beach Hotel, Entebbe, on the 20<sup>th</sup> – 21<sup>st</sup> October, 1999, and was attended

by some 45 participants. It was organized by the Ministry of Energy and Mineral Development under the supervision of the Commission for Energy, Mr. Godfrey Turyahikayo and logistical assistance was provided by a local consultant coordinator.

1.4 The stakeholder comprised of Government officials, donors, and officials from the utility reform unit. Potential IPP/IPD's, Private Sector representatives, Parliamentarians, the Power Utility Board Members, and resource persons from the World Bank. This group represented the key players in Uganda's present and future power sector.

1.5 The workshop was a two-day event comprising six sessions and two round table discussions. There was a closing session in which a summary of the workshop was made and plans were suggested for the next steps. The list of participants is attached as Annex 1.

# 2

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## Workshop Presentations

2.1 The workshop comprised of six sessions.

### ***Opening session***

2.2 The opening session chaired by the Permanent Secretary Ministry of Energy & Mineral Development, Mr. F.A. Kabagambe – Kalisa, was addressed by Mr. Mangesh Hoskote who gave an introduction to the workshop. He pointed out that the main objectives of the workshop were to impart knowledge to the participants on how to manage the reform process. International experience would be shared in the workshop.

2.3 After the presentation by Mr. Hoskote, the Minister for Energy and Mineral Development, the Hon. Syda Bbumba gave her workshop opening address. The Minister gave a background to the Uganda Power Sector Reform process and the policy as stipulated in the strategic plan for the Uganda power sector. The Minister also pointed out that the utility, Uganda Electricity Board, (UEB) was undergoing reforms to bring about efficiency in its operation.

2.4 She also highlighted the provisions in of the Electricity Bill (1999) which was before Parliament. She said that the enactment of the Bill into law would be a cornerstone for the reform process. The full Minister’s speech is shown in Annex 2.

### ***Session Two***

2.5 In the second session, the following presentations were made:

- A presentation on ‘Uganda’s Power Sector Reform Programme’ was made by Mr. G.R. Turyakikayo, Commissioner for Energy on behalf of the Permanent Secretary of the Ministry of Energy and Mineral Development.
- A presentation of post-reform issues: the experiences of Ghana and Panama. The presentations on post reform issues were made by Mr. Michael Opam, Director, Public Utility Regulatory Commission of Ghana and Commissioner Rafael Moscote, of the Public Utility Regulatory Commission of Panama. This included sub-topics on the following:
  - privatization of generation and distribution;

- regulatory independence – what does it mean?
- Terms of Reference for regulators – what they can.
- lessons learned.

2.6 The presentations were followed by general discussions. Participants raised a wide range of issues focussing mainly on the experiences of both Ghana and Panama. These included among others.

- performance of generation regulation in Panama;
- how rural electrification is handled in those countries, whether this is regulated by the Regulator or not.

### **Session Three**

2.7 Session three was chaired by Mr. Keith Muhakanizi on behalf of the Permanent Secretary Ministry of Finance. This session centered on government guarantees and contingent liability management.

#### **Round Table Discussions**

- Investment Grade Credit Rating:
  - Discussions on sovereign rating and grades were led by Mr. Jock Paton of Standard & Poors.
  - It was noted that the exercise of establishing the ratings is a complex one, which takes into consideration a wide number of issues. It was further noted that there is no single figure for a sovereign rating or an investment grade.

#### **Enforcement of Contracts (Legal Sector)**

- In the discussions the problem faced by private sector in settlement of disputes and contract enforcement in the court system, was pointed out and recognized as a big disincentive for development.

### **Session Four**

2.8 Session four took place on the second day. Under this session, two presentations were made namely:

- Privatization of Distribution: A Review of International Experience. Mr. Mangesh Hoskote of the World Bank made this presentation.
- Vesting contracts what are they and why they are used?
  - vesting and IPP contract interplay;
  - design of vesting contracts;
  - case study of designing and structuring vesting contracts between generators and distributors.

Mr. Andrew Campbell, of Intelligent Energy Systems, Sydney, Australia made this presentation.

2.9 In his presentation Mr. Hoskote, pointed out that the World Bank is trading 74 distribution transactions. Two distribution models were identified namely:

- single buyer, normally a state entity; and
- market model, where several buyers exist.

For Uganda, given the size of the sector, a single buyer model has been recommended.

2.10 During the discussions, participants wanted to know what were the causes of failure for the distribution companies that had not performed well. The major reason for this was seen to be the untested nature of the regulatory arrangement.

2.11 Examples of distribution concessions for Panama, it was stated that there was one company with 400,000 customers. There was a legal mandate to have at least two companies. A study, which was conducted, showed that there should be a minimum of three companies. The market share of these companies was 50%, 43% and 7% respectively.

2.12 Participants also wished to know whether the Bank has statistics on reliability of supply after staff reductions in the various utilities. It was however, noted that this is an area where information is scanty.

2.13 On the criteria used to select a particular model, it was noted that the key factor is the predictability of the regulation regime.

2.18 Basic guidelines and criteria for selection of model include the following:

- the legal frame work;
- confidence in the judiciary;
- confidence that the investor can repatriate profits.

2.19 On vesting contracts, after the presentation, it was noted that the vesting contracts achieved their goal, i.e. prices became lower.

2.20 *Participants wished to know the mix of generation in the Australian State of Victoria, which was stated to be predominantly coal, some gas and hydro contributing just about 10%. On the role of the regulator, it was pointed out that the regulator moves in to make sure that there is no collusion between the participants in the sector.*

### **Session Five**

2.21 In session five, the following presentations were made:

- A case study: Panama's Electricity Reform Process. This was made by Commissioner Rafael Moscote of the Public Utility Regulatory Commission of Panama.
- A case study: Victoria's Electricity Reform Process, made by Mr. Andrew Campbell of Intelligent Energy Systems, Sydney, Australia.
- Power Sector Reform: Process Management and Consumer Education.

2.22 In the case of Panama, it was noted that what is regulated is the transmission and distribution tariffs, but not the generation. The distribution is such that there is one company per area. Generators get special permission to deliver 25% of the energy to the distributors.

2.23 It was noted, that an important factor in the reform process, was to explain to the people any changes so that their expectation were not so high. In Panama, there were two short power purchase agreement PPAs, three distributors and seven generators. A single buyer model was used.

2.24 On the tariff setting, this is composed of transmission and distribution. Consumers of 500 KW and above have direct access to transmission.

2.25 Regarding the issue of capital contribution when providing power supply, this was refunded in Panama.

### **Session Six**

2.26 During this session a summary of workshop thematic topics was given.

#### ***Power Sector Reform – Post Reform, Emmanuel Nyirinkindi Director Utility Reform Unity Ministry of Finance.***

2.27 Mr. Emmanuel Nyirinkindi, spoke on the subject of post-reform issues. In particular he addressed the issues of:

- UEB Privatization;
- Regulatory Independence and Capacity; and
- Government Guarantees and Contingent Liability Management.

#### ***UEB Privatization***

2.28 Mr. Nyirinkindi explained that the Government had approved a Strategic and Implementation Plan for the reform of the Uganda Power Sector. The plan establishes Government's goals and objectives for the sector in the foreseeable future and details its implementation plan for power sector reform and the privatization of UEB.

2.29 It was pointed out that, as envisioned in the Strategic Plan, UEB's privatization would initially be by way of letting out concessions to the private sector for distribution and then for the generation capacity at the Owen Falls facilities. The Government is committed to a smooth and transparent divestiture that will conform to all requirements of the PERD Statute and the Electricity Act to be passed soon.

#### ***Regulatory Independence and Capacity***

2.30 It was pointed out that the question of building regulatory capacity would be given the highest priority by Government. This is because under the approved Strategic Plan, the Regulatory Agency that would be created to regulate the electricity sector would be charged with great responsibilities that would render it crucial to the successful development of this sector. Under the Strategic Plan, and the Electricity Bill presented to Parliament, the independence of

the regulator was considered of paramount importance to inspire confidence in sector stakeholders. A key concern was to ensure independence from both Government and the industry.

2.31 On the issue of regulatory capacity, the issue of constrained human and financial resources was raised. Mr. Nyirinkindi supported the call for increased training and informed participants that both the Ministries of Energy and Finance had undertaken a number of initiatives in this field. He also pointed out that the inclusion of related topics within the curriculum of the International Law Institute program in Kampala would be beneficial to the country. He called for more local training be made available, this being the most cost-effective method for training a large number of people.

2.32 Mr. Nyirinkindi pointed out that because of the limited financial and human resources the country had for pursuing regulation in the utility infrastructure sector, the creation of a multi-sector utility regulatory agency had been proposed for the electricity, water and telecommunications sectors. However, given the need to process reforms in the electricity sector the Government had authorized the creation of an Electricity Regulatory Agency. This was in addition to the Uganda Communications Commission, which regulates the communications sector.

### ***Government Guarantees and Contingent Liability Management***

2.33 Mr. Nyirinkindi stressed that while Government had identified the potential risks associated with the reform of the power sector, and in particular, with possible guarantees to be provided to potential developers of independent power projects, it was necessary to develop a formal mechanism for monitoring, quantifying and mitigating these risks.

2.34 Mr. Nyirinkindi pointed out that the cost of a guarantee might be thought of as a risk should the guarantee be called. In addition to the project specific measures, GoU therefore intends to take the following actions to mitigate risk:

- Sectoral actions.
- Create an efficient and financially viable power sector through reform and privatization.
- Allow electricity tariffs to cover LRMC.
- Execute export sales agreements to mitigate demand and foreign exchange risks.
- Support market based programs to promote increased access to electricity supply.
- Macro level actions.
- Promote the development of local capital markets (these will place a lower premium on country risks and offer some protection from forex risks).
- Promote the development of secondary markets e.g. insurance markets and instruments to hedge against forex risks.
- Promote an attractive business environment, e.g. efficient tax administration and fair judicial process, which will reduce perceived country and commercial risk.
- Good governance: reduces perceived political risk.

2.35 The best way to manage contingent liabilities is to ensure that a guarantee is never called, i.e. through thorough risk mitigation. It is also important to create information systems, so that all parties have full information for risk management, e.g. a requirement for the power off-taker to report its financial performance to Government in order that it may adequately assess the risk of a payment guarantee being called. However, Government must also prepare for the eventuality that a guarantee is called.

2.36 To date Government has explored the following options:

- Reflect contingent liabilities in the medium term budget framework.
- Partial Risk Guarantee: An IDA instrument that backstops Government guarantees of a limited set of risks, especially political risks. Under such an arrangement, for a limited set or risks, where a Government guarantee is called and the Government is unable to pay, the Government may call on IDA to pay on its behalf. However, it is important to note that a PRG will require GoU to enter into a counter-indemnity agreement with IDA – the terms of this counter-indemnity agreement are critical to the value of a PRG to Government.

2.37 Other measures:

- Budgeting explicitly for contingent liabilities, i.e. including a budget allocation for the risk adjusted cost of a contingent liability.
- It is difficult to make a quantitative assessment of risks, especially given information constraints:
  - when there are budgetary resources available for this purpose, it is likely to be preferable to use them for risk mitigation, e.g. to establish a fund to hedge against foreign exchange risks.
  - Integrated management of contingent liabilities, whereby Government examines its exposure to risks across all sectors, and develops strategies to mitigate and manage them. For example, it may be possible to off-set some risks against others, i.e. heavy rainfall may mean increased damage to roads, but this could be off-set by increased production of hydro-electricity.
  - This is difficult given imperfect information.
  - Although this approach is commonly employed by multi-national corporations, there are few examples of its use in Government.

### ***Lessons for the Future***

2.38 Develop a policy framework for private participation in infrastructure, including guarantees and contingent liability management, before beginning negotiations with developers.

2.39 As far as possible mitigate risks up-front so that Government incurs fewer contingent liabilities e.g. it would have been preferable to privatize the power sector before developing IPP's in order that (a) IPP's would be entering a financially viable industry (b) private operators in the power sector could lead negotiation for the development of IPP's.



***Reform Process Management and Consume Education Paul Mubiru, Assistant Commissioner Ministry of Energy and Mineral Development***

2.40 Drawing upon the lessons from Ghana, Panama and Victoria and the discussions held during the workshop it was observed that the process should take the following steps:

- Identify and clearly understand the objectives and build consensus among the different stakeholder.
- Agree on the section structure:
  - agree on the issue of ownership; and
  - reach consensus on the issue of regulation; the scope whether single or multi sector etc.
- There is a need to move fast on the reforms to avoid asset stripping.
- Establish regulatory framework and appoint members of the Electricity Regulatory Authority:
  - develop tariff regulations for transmission and distributions;
  - establish market rules for generation (dispatch rules); and
  - develop geographical areas for distribution concessions.

***Contingent Liability Management***

2.41 Under contingent liability management, the key issues identified can be summarized as follows:

- Guarantees are essential but they should be transitional; and
- A need for public exposure was highlighted in:
  - quantifying the risks;
  - government to look at the cost of contingent liability;
  - measurement of the risks.
- Interests for both the investors and the country should be balanced.

2.42 In Ghana, efforts were made to establish a core team trained by the Bank in the US. By the time of putting in place the regulator, this core team was in place.

2.43 It was recognized that a similar approach is taking place in Uganda. Government has approached among others DFID, Norwegian Government, among many others to create capacity.



# 3

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## Next Steps and Concluding Remarks

### World Bank Country Director

3.1 Mr. James W. Adams, the World Bank Country Director, in his concluding remarks observed that the power sector has received a lot of support given its importance.

3.2 He pointed out that government should continue to count on continued World Bank support and that the challenge was how to implement the established framework and maximizing consumer education.

### Commissioner for Energy

3.3 The workshop was closed by the Commissioner for Energy on behalf of the Permanent Secretary, Ministry of Energy and Mineral Development. He thanked all the participants for the useful contributions made at the workshop. Special tribute was paid to the World Bank for facilitating the workshop.

3.4 He noted that there maybe more than one way of carrying out the reforms and that Uganda would take the most appropriate path to her situation. He stressed the need to internalize the issue of guarantee and called upon the Bank to explore possibilities of holding a future workshop to focus on such issues.



# Annex 1

## Workshop Participants

NAME	DESIGNATION	ORGANISATION
1. Hon. Syda Bbumba	Minister	Ministry of Energy and Mineral Development
2. F.A. Kabagambe-Kaliisa	Permanent Secretary	Ministry of Energy & Mineral Development
3. G.R. Turyahikayo	Commissioner for Energy	Ministry of Energy & Mineral Development
4. Eng. Paul Mubiru	Assistant Commissioner	Ministry of Energy & Mineral Development
5. Ronald Mugambe	Engineer	Water Development Director
6. Emmanuel Nyirikindi	Director	Utility Reform Unit, Ministry of Finance
7. Ms Grace Kabunga	Business Analyst	Utility Reform Unit.
8. Keith Muhakanizi	Director	Ministry of Finance, planning & Econ. Dev't
9. Joe Wright	Economist	Utility Reform Unit, Ministry of Finance
10. Ssemakula Godfrey	Investment Officer	Uganda Investment Authority
11. Arthur Bwire	Senior Investment Officer	Uganda Investment Authority
12. Masitula Manyami Male	Director	Uganda Electricity Board
13. Dr. S.S. Tickodri-Togboa	Deputy Chairman, Board of Directors	Uganda Electricity Board
14. Ben Ojok	Ag. Manager District Services	Uganda Electricity Board
15. Kagule-Magambo	Chairman	Uganda Electricity Board
16. Dison B. Okumu	General Manager (Services)	Uganda Electricity Board
17. Dr. Terry Kahuma	Principal Safety & Services Engineering	Uganda Electricity Board
18. Rafael A. Moscote	Commissioner	Panama's Regulatory Entity
19. Haran Sivam	World Bank (IFC)	IFC

20. Mr. Michael Opan	Director	Public Utility Regulatory Commission of Ghana
21. Chris Marrison	Consultant	Oliver Wyman & Co.
22. Mangesh Hoskote	Power Sector Reform Specialist	World Bank
23. Andrew Campbell	Consultant	Intelligent Energy Systems
24. Jock Paton	Director	Standard & Poor's
25. Linda Walker Adigwe	Logistical Advisor/Consultant	World Bank, Washington
26. Mugenzi Arthur	Logistical Consultant	World Bank, Kampala
27. Simonis Philippe	Project Coordinator	GTZ/Energy Advisory Project (Min. of Energy & Min. Dev.)
28. Ms. Britte Hilde Kjoelaas	First Secretary	Norwegian Embassy
29. Espen Lier	Advisor	NVE
30. Deo N. Rubumba	Director	Environment and Energy Law Center
31. Richard Wood	Director	Pricewaterhouse Coopers
32. Fred C. Kasumba	Managing Partner	Data, Figure & Co.
33. Paul S. Kiboigo	Electric Engineering Manager	Kakira Sugar Works (1985) Ltd.
34. Julius Twesigye	Project Engineer	Madhvani Group
35. Bob Makoma	Company Secretary	Kilember Mines Ltd.
36. Farhan Nakhoda	Project Director	Kakira Sugar Works-Madhvani Group
37. K. Peswar	Senior Manager Corporate Affairs	Kakira Sugar Works/Madhvani Group
38. Benon Kakuru	Production Manager	Kinyara Sugar Works Ltd.
39. Hon. Eng. Ndawula K.	Member of Parliament	Parliament
40. Hon. Ssembajja S.	Member of Parliament	Parliament
41. Winfred Sanya	Journalist	New Vision
42. Wossita Samuku	Journalist	The Monitor
43. Basena Martin	Journalist	Construction Review
44. Olanyo Joseph		New Vision

# Annex 2

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## **Welcome and Opening Address by the Hon. Syda N. Bbumba, Minister of Energy and Mineral Development**

My colleague, Minister of State for Energy and Mineral Development

The World Bank Resident Representative

The World Bank, ESMAP Team

Representatives of our Development Partners

Workshop participants in your various capacities

Ladies and Gentlemen:

It gives me great pleasure to welcome you all to this important workshop on “Uganda Power Sector Reform and Regulation Strategy”. For our friends who have come from abroad, I welcome you to Uganda and wish you a pleasant and memorable stay.

Over the past three years, Government has been working on various reforms in the power sector aimed at bringing about efficiency, attracting private sector participation and increasing capital inflow in the sector. Key achievements in this process including the establishment of the New Strategic Plan for the Power Sector and the development of Electricity Bill, which is currently before parliament for enactment into law.

The strategic plan has been designed to meet the following objectives, which the government has set for the power sector:

- Making the power sector financially viable and able to perform without subsidies from the government budget;
- Increasing the sector’s efficiency;
- Improving the sector’s commercial performance;
- Meeting the growing demands for electricity and increasing area coverage;
- Improving the reliability and quality of electricity supply;
- Attracting private capital and entrepreneurs; and
- Taking advantage for export opportunities.

It is my Ministry's policy to increase access to electricity supply especially in the rural areas to bring about rural transformation through increased incomes as a result of improved agricultural production and small-scale enterprises. This will result into an improvement of the quality of life of the rural population.

The country is endowed with abundant hydropower resources and, therefore, it is the intention of my Ministry to make Uganda the hub for power exports in the region.

In order to attain the policy goals outlined above, we have put in place the following measures:

- As already stated, we are at an advanced stage in enacting the law which will remove UEB's monopoly status and permit private sector participation initially in the generation and distribution of electricity and then transmission at a later stage. In particular, the entry of Independent Power Producers (IPPs) will help to increase electric power generation to meet both local and regional electric energy needs.
- The reform process of the utility (UEB) is already underway. There has been restructuring of the organization into key business units of Generation, Transmission and Distribution and more competent management has been appointed.

After unbundling of UEB activities, control of existing assets will be let to the private sector through long-term concessions but ownership of these assets will remain in the public sector in the near term.

Right-sizing of the utility has also proceeded well, with over one thousand employees retrenched since July 1997. There are also efforts to divest the non-core activities like provision of security services, management of estates and vehicle maintenance.

A new billing system will also be implemented starting next month.

- Demand-side management programs and public awareness campaigns as well as measures for curbing of illegal power consumption to save energy and financial resources have been invigorated. These are some of the stop-gap measures to address the growing demand for electric power.
- Regarding electricity exports to our neighbors, Uganda currently exports 30 MW (off-peak) to Kenya, 5-8 MW to Tanzania and 2 MW to Rwanda.

Bi-lateral discussions are being held between Uganda and those countries to increase the level of exports especially with the coming of new IPP projects. We are targeting to export at least 165 MW to Kenya, and 40 MW to Tanzania.

It is envisaged that we will attain bankable export sales agreements soon.

- Promotion of independent power production projects has successfully attracted a number of investors for both big and small hydropower projects. Notable among them is AES Nile Power with whom negotiations for the development of a 200 MW power plant have been concluded at Bujagali on the Nile River.

Another IPP, Norpak Power Ltd. has also concluded technical studies on another Nile River site, Karuma, for the development of a 150 MW power plant.



PROFIDEV of Egypt has shown interest in developing one of the other Nile sites. There are also small power producers like Kasese Cobalt Co. Ltd. Who have developed a 10 MW plant at Mobuku. The sugar factories, through co-generation, are also producing power for their consumption and are intending to expand their generation capacity and supply the excess power to the grid.

- In the areas of rural electrification the overall national policy objectives are:
  - to accelerate electricity access expansion to rural and peri-urban areas using a variety of approaches in a least-cost and sustainable manner, to facilitate rural development; and
  - to promote and support the generation of electricity from indigenous non-congenital renewable energy sources to supply remote areas and where feasible, connect to the grid. In that regard, government is developing a comprehensive rural electrification strategy and plan with the assistance of the world Bank's Africa Rural and Renewable Energy Initiative (AFRREI).

The specific objectives of the program are:

- To improve the life of rural people and to facilitate significant off-farm income activities by accelerating rural electrification, including from solar PV systems, with a tentative target of increasing rural electricity access from 1% to over 10% by 2010.
- Develop Uganda's indigenous, renewable energy resource on a cost-effective basis, with a tentative target of about 70 MW of power generation from small renewable energy resources by 2010.

Ladies and Gentlemen: at this juncture, let me outline the key provisions of the Electricity Bill that I have already alluded to, which is the pillar of our sector reform.

To achieve the above objectives, the Bill, among others:

- Proposes the establishment of the Electricity Regulatory Authority. The Authority will grant and revoke licenses, regulate electricity tariffs and enforce performance standards of licenses. The authority will act independently in the performance of its functions and will delegate certain specified functions to local governments, specifically for those developments that require light regulation, like the small decentralized power supply demand;
- Lays down the licensing procedure which is to be conducted in an open and transparent manner;
- Provides for the Minister to prepare a rural electrification strategy and plan to be submitted to cabinet for approval on a regular basis. It also provides for the establishment of the Rural Electrification Trust Fund and a Board of Trustees to administer the fund and advise on matters relating to rural electrification;
- Provides for the rights and duties of consumers;
- Provides for an appeal mechanism through an Electricity Disputes Appeal Tribunal to determine and resolve in an expeditious manner, all matters relating to the electricity sector; and

- Provides for transitional provisions such as issuing of initial licenses by the Minister, the incorporation of a successor company to the Uganda Electricity Board, the transfer and ownership of assets of UEB and for former employees of the Board.

As already indicated, the enactment of the electricity law will be an important milestone in the reform process of the power sector.

In the next two day, ladies and gentlemen, you will receive a number of presentations on power sector reform and regulation with examples from other countries. The resource persons are eminent individuals with vast international experience in these areas. It is my hope that we will borrow from the experiences gained elsewhere in our efforts to reform the Uganda Power Sector.

I am happy to learn that Uganda is among those countries in Africa, which are implementing Power Sector Reform. I look forward to Uganda becoming yet another success story in these reforms.

With these few remarks, it is my pleasure to declare this workshop open.

I thank you.

# Annex 3

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## Presentations

### Uganda's Power Sector Reform Programme

By: F.A. Kabagambe-Kaliisa Permanent Secretary, Ministry of Energy & Mineral Development

#### Introduction

#### Status of the Power

The power sector in Uganda is a publicly owned, vertically integrated utility, the Uganda Electricity Board (UEB). Generation is dominated by the Owen Falls Hydro Power Station of 180 MW capacity out of a total national installed capacity of approximately 196 MW.

Electricity coverage nation-wide is only about 5% of the population. Only 20% of the urban population are connected to the grid. Less than 1% of the population in the rural areas is supplied with grid electricity. However, recent studies have indicated that there could be as many people supplying themselves with electricity using diesel/petrol generators, car batteries, solar PV systems as those connected to the grid. These self-electrifying people also pay much more for their electricity than those paying the UEB tariff.

Electricity consumption by sector is as follows: residential – 55%, commercial and general – 25% and industrial – 20%.

The bulk of electricity (72%) is consumed by the 12% of the population that lives in urban areas of Kampala, Jinja and Entebbe.

#### Major Issues in the Power Sector

- Very poor supply reliability, characterized by extensive and increasing load-shedding and reduction in voltage.
- Inadequate investment capital
- Very poor commercial performance of UEB.
- High technical and non-technical losses.

- High accounts receivable.
- Low productivity
- Poor rate of connection of new customers.

## **The Reform Programme**

The major elements in the reform program are:

- Formation and implementation of the Power Sector Strategic Plan.
- Internal reforms of UEB (restructuring and commercialization).
- Legislative and regulatory reforms.
- Promotion of private sector participation.
- Expanding of power export opportunities.
- Focus on rural electrification.

### ***The Power Sector Strategic Plan***

#### **The power sector strategic plan**

#### **Key Objectives**

In 1997, the Government of Uganda formulated a comprehensive and detailed Strategic Plan for transforming the Uganda power sector into a financially viable electricity industry, in order to enable it to supply reasonable prices and reliable power and to make its full contribution to the further economic and social development of Uganda.

This plan has been revised into the New Strategic Plan 1999, designed to meet as before the following key objectives for the power sector;

- Making the power sector financially viable and able to perform without subsidies from the government budget;
- Increasing the sector's efficiency;
- Improving the sector's commercial performance;
- Meeting the growing demands for electricity and increasing area coverage;
- Improving the reliability and quality of electricity supply'
- Attracting private capital and entrepreneurs; and
- Taking advantage of export opportunities.

#### **Envisioned Power Sector Structure**

The existing UEB, which is vertically integrated with generation, transmission and distribution as one entity, will be unbundled and each of the three components will operate as a separate self-accounting entity.

## **Generation**

The strategy for generation is to increase the scope of competition in the provision of new generation capacity and in the running of existing generation assets.

New generation capacity will be provided competitively by the private sector through Independent Power Producers (IPPs). Both the existing Owen Falls Power Station (OFPS) and the Owen Falls Extension (OFE) will continue to be owned by the public sector but let to the private sector through concessions. GoU's privatization transaction advisers will determine whether it is feasible to let separate concessions for the two plants or have them operated by the same company.

## **Transmission**

A separate Transmission Company will be responsible for network maintenance, system operation and dispatch and bulk purchase and supply of electricity.

Initially, responsibility for transmission will remain with UEB and will be operated as an independent profit-making business. UEB's existing transmission assets will be let under a concession contract to a private sector entity in the medium term, while ownership of the assets will remain in the public sector.

As far as feasible, new transmission capacity will be developed, financed, constructed operated and owned by the private sector.

## **Distribution**

Reform of the distribution system, in order to make it financially viable and improve its commercial performance, will be the key to the success of the whole reform program. The maximum number of financially viable distribution companies will be created out of the existing UEB distribution business. Concessions will be granted to the private sector to operate these distribution companies. The transaction advisers will advise government with regard to the number and scope of the new distribution companies.

## **Market Structure**

A ring-fenced business unit within the Transmission Company will be responsible for bulk purchase and supply of electric power. It will therefore hold PPAs for OFPS, OFE, and the IPP's under development, and contracts to supply distribution companies. It will also be responsible for generation planning, contracting for new capacity, settlement, etc.

In the long-term, distribution and large consumers will contract for generation capacity directly with generators and the transmission network will be operated on an open access basis.

## **Ownership**

While control of existing assets will be let to the private sector through long-term concessions, ownership of existing assets will remain in the public sector in the near term. However Government will continue to investigate mechanisms for transferring ownership to the private sector in the medium to long-term. To the extent feasible ownership of incremental and

new assets will remain in the private sector. To preserve open and transparent market operation, there will be restriction on cross ownership.

### **Regulation**

A key component for the reforms being put in place by the government will be a new regulatory system for the power sector. This will give confidence to both private sector participants and consumers that the new power system will function under an agreed and transparent set of rules and procedures. Regulation will be through an autonomous regulatory authority, with powers defined under the new Electricity Act.

### **Government Role**

Government's key roles in the reformed power sector will be principally to:

- prepare and obtain necessary approvals for legislation and regulations;
- prepare the national energy strategy and indicative generation plans; and
- guide socially desirable investment programs like rural electrification.

### ***Internal Reforms of UEB***

Uganda Electricity Board has undertaken several internal re-organization measures geared towards improvement of operational efficiency and preparation for reforms.

These include the following:

- Restructuring of the organization to reflect the key business units of Generation, Transmission and Distribution. In addition, three other units of Projects, Finance and Services have been demarcated. A General Manager for each unit has been appointed.
- Sizing-down of the utility from some 3060 employees in July 1997 to a current level of 2000 employees;
- Divestiture of non-core activities namely;
  - provision of security services';
  - management of estates; and
  - public relations function.

Arrangements are underway to divest both the motor vehicle maintenance/repairs and the procurement services. Attempts to divest the pole treatment activity did not yield good results, as the quality of services offered by the private sector was poor. This activity has been retained.

- Cost control measures including, monetisation of transport, utilities and security guards benefits for entitled officers;
- New billing system, to be done on line, to be started November 1999, with Kampala and spreading to other areas; and
- Improvement of customer services, opening up to the public.

### ***Legislative and Regulatory Reforms***

The work of reviewing the Electricity Act (1964) and formulating a Reform Bill started in August 1997 under assistance from NORAD. The Electricity Bill (1999) is now before Parliament for enacting into a law to regulate the Power Sector.

The object of this Bill is to liberalize and introduce competition and active involvement of the private sector into an efficient industry to enable it to supply reasonably priced and reliable power and to make its full contribution to the economic and social development of Uganda.

The major provisions of the Bill are:

- Establishment of an independent Electricity Regulatory Authority, which will license, monitor and control activities in the sector.
- Licensing procedures and the types of licenses to be provided by the Authority.
- Establishment of a Rural Electrification Trust Fund and a Trustee Board for its administration.
- Rights and duties of consumers.
- Offences and penalties.
- Appeals Tribunal for disputes.
- Acquisition and use of land for installation and electric supply lines.
- Appointment of inspectors by the authority.
- Tariff setting.
- Interim licenses to be issued by the Minister before the authority is constituted.
- Repeal of UEB and formation of a successor company.

### ***Promotion of Private Sector Participation***

In line with government's strategy to increase generation capacity through the involvement of the private sector, Independent Power Producers have been earmarked for the development of Bujagali and Karuma Projects.

The feasibility study for the development of the Bujagali Project (250 MW) was completed by AES Nile Power in March 1998. A public hearing on the Environmental Impact Study was held in August 1999. Negotiations of the Implementation Agreement and Power Purchase Agreement were finalized. The guarantee for the PPA awaits parliament's approval.

For the Karuma hydropower project, NORPAK Power Ltd., the developers have presented the feasibility study and Environmental Impact Study. Negotiations of the Implementation Agreement and Power Purchase Agreement have commenced.

### ***Expanding Power Export Opportunities***

The Uganda Power Sector has the capacity to dominate the region's electricity supply-side because of the comparative advantage in the production of relatively cheap hydropower. Uganda's existing potential is estimated to be over 2000 MW on the Nile River.

Bi-lateral discussions are going on between Kenya, Tanzania, Rwanda and Uganda. It is estimated that by 2006, Kenya will require up to 295 MW. Tanzania on the other hand requires about 100 MW by 2004 to supply mining areas.

Uganda is looking forward to firming up export contracts by end of this year.

### ***Focus on Rural Electrification***

To address issues of poverty alleviation, the Government has formulated an Energy for Rural Transformation Program to be implemented with the assistance of the World Bank and other donors.

The objectives of the program are:

- To improve the rural quality of life and facilitate significant rural non-farm income by accelerating rural electrification, including from solar PV systems, with a tentative target of increasing rural electricity access from about 1% at present to over 10% by 2010.
- To promote development and use of Uganda's indigenous, renewable energy resources on a cost-effective basis with a tentative target of about 70 MW of power generation from small renewable energy resources by 2010 and development of a tradition of commercial woody biomass.

To provide funding for rural electrification, government has proposed to establish a Rural Electrification Trust Fund and a Board of Trustees to administer the fund and advise on matters relating to rural electrification. The main purpose of the fund will be to provide "smart subsidies" by buying down the initial cost of investment for connection, but ensuring that the consumers pay the economic cost of supply through the tariff.

The program will be mainly private sector-driven and commercially oriented. The major elements of the program will be:

- Grid intensification to the load centers within the proximity of the grid network;
- Development of isolated generation system and associated mini-grids for those load centers (e.g. trading centers) that cannot be economically connected on the grid;
- Development of small renewable power supply systems [e.g. micro and mini hydro power biomass co-generation, wind power, etc.] that could be operated as stand-alone connected to the grid; and
- Dissemination of solar PV systems for isolated homes and institutions.

### **Reform Implementation Programme**

The Strategic Plan contains an implementation plan detailing out the key milestones to be achieved in the reform process (See chart – Annex 1). These are:



- Government approval of the Strategic Plan - Mid June 1999
- Enacting of the Electricity Law - September 1999
- Establishment of the Regulatory authority - February 2000
- Award of distribution concessions - October 2000
- Award of generation concessions - December 2000.

## **Conclusion**

In conclusion, the power sector reform process is on course. The re-organisation efforts in UEB are yet to yield the desired effects. However, the success of the entire reform programme hinges on the efficient operation of UEB's distribution and commercial entities, and the level to which the private sector can be attracted to enter into the various aspects of the sector structure.



# PowerPoint Presentations