Assessing Regulatory Performance in Africa:
Insights from the African Electricity Regulator Peer Review and Learning Network

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Leading change in emerging markets

www.gsb.uct.ac.za/mir
African electricity regulator peer review & learning network

Objectives

• **Immediate**
  
  – To enhance leadership and management capability among African electricity regulators
  
  (Leading to increased credibility, transparency and robustness of regulatory decisions)

• **Medium term**

  – To enhance overall investment and development outcomes through improved performance of continent’s electricity infrastructure industry
Approach

Learning from peers in a collegial environment through the review of each others regulatory systems

- Some inherent benchmarking though not focus of the network. Rather, emphasis is on learning what works, what can be improved and what can be adapted
- From an academic viewpoint network an extension/addition to more conventional suite of executive education offered by MIR
- Takes the learning experience from classroom to the workplace!
- Focuses on leadership (CEOs)
- And of course an opportunity for in-depth research on regulatory performance in Africa
Emphasis is on role of experience in learning process

Concrete experience

Observations and reflections

Formation of abstract concepts and generalisations

Testing implications of concepts in new situations

Adapted from: Learning and Problem Solving, David A. Kolb
Network members

Ghana

Kenya

Uganda

Tanzania

Zambia

Namibia
Typical review process

• 5 CEOs visit 6th institution with support from MIR
• Intensive one week
• Interviews with
  – Minister
  – Regulator Commissioners
  – Regulator management & staff
  – Utilities
  – Private producers / investors
  – Consumer groups
  – Trade unions, media, parliamentarians
• Initial findings & recommendations presented to Commissioners, CEO and regulator management & staff
• Opportunity for subsequent institutional response & agreement on areas that could be improved
• Full review report published
• Follow-up actions from MIR (research, training, etc)
The Experience So Far

- 100% commitment and participation by CEOs
- Rare (unique) opportunity for CEOs to explore in-depth the governance & substance of peer regulatory institutions (very different from typical conferences, meetings and even regulatory courses)
- CEOs and institutions being reviewed have been remarkably open and cooperative in sharing information and facilitating interviews
- A high-level of trust has developed between network members & through the review process they constantly offer critiques or share information or acknowledge learning opportunities
- Thorough and detailed exchange of laws, regulations, information, documents, methodologies, etc
Assessing Regulatory Performance
Building Blocks for Understanding Regulatory Performance - Impact

• Where should regulators make a difference?
  – Consumers/Customers
    • Access to the Grid
    • Reliable, quality supply and service
    • Competitively priced “affordable” electricity
  – Utilities
    • Efficiency
    • Financial viability
    • Adequate and timely investments
Building Blocks for Understanding Regulatory Performance - Substance

• What do regulators do?
  – Control market access through licensing
  – Determine electricity prices
  – Set & monitor technical standards
    • System adequacy
    • Continuity of supply
    • Quality of supply
    • Customer service quality

Also
  – Transmission access
  – Pro-poor considerations
  – Environmental consideration
    • Energy efficiency
    • Renewable energy

• Manner through which these functions are carried out should be such that decisions are of high quality and robust
Building Blocks for Understanding Regulatory Performance - Governance

• “How” do regulators go about their business?

• Effectively the factors the give rise to the decision making independence of the regulator (arguably at the core of the independent regulator model)

• Regulatory decisions need to be **credible, legitimate** and **transparent**
Building Blocks for Understanding Regulatory Performance - Governance

LEGAL FRAMEWORK

Clarity of roles and functions

Decision Making Independence

Financial & Mgt. Independence

Accountability

Transparency

Predictability

Proportionality

Credibility, legitimacy and transparency of regulatory decisions
Hence – A Framework for Evaluating Regulatory Performance

Regulatory Governance
- Legislative / legal design and institutional arrangements of regulatory system and processes of decision making
- Credibility, legitimacy and transparency of regulatory decisions

Regulatory Substance
- Content of regulation - tariff setting methodologies and practices - technical and commercial quality of service standards - pro-poor and increasing access issues
- Quality and robustness of regulatory decisions

Regulatory Impact
- Cost-effective, reliable infrastructure services, financial viability of utilities, attraction of new investments

Adapted from Brown, Stern, Tenenbaum & Gencer, 2006
Highlights from Previous Peer Reviews
The Case of Namibia – The Key Issues (1)

- Cost reflectivity in pricing not yet reached however govt. policy is to reach cost reflectivity in 2010/11

Source: Electricity Control Board
The Case of Namibia – The Key Issues (2)

- No Access to electricity
  - Urban: 32.4%
  - Rural: 90.5%
  - Overall: 68%

- Installed capacity 393MW (sensitive to Ruacana River hydrological conditions)
  - However peak demand in excess of 450MW (country is a net importer of electricity)
  - Consumption/demand rising
  - Namibia keen to attract new IPP investment including the mega 800MW Kudu gas project (No IPPs to date)

- Limited load shedding (during period of regional constraints)
The Case of Namibia – The Key Issues (3)

Namibian Electricity Statistics

Source: Electricity Control Board

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The Case of Namibia – The Key Issues (4)

- Vertically integrated state-owned utility NamPower financially viable
  - Fitch long term currency issuer default rating of BBB-

- However this not the case for Regional Electricity Distributors and municipal distributors whose prices are distorted by the local authority surcharge
The Case of Zambia – The Key Issues (1)

• Tariff in the order of US$3.0/kWh (M0.87/kWh) one of the lowest in Africa (perhaps the world)
  – Cost of service study showed that domestic tariff required to be increased by 150% to reach cost reflectivity!!
  – Govt intends to reach cost reflective level by 2011/12 however only 32% awarded at recent 66% application

• 2008 peak demand of 1,494MW clouds suppressed demand on account of load shedding
  – Load shedding due to regional capacity constraints (gx & tx), over-run power rehabilitation project and forced outages of plant

• No electricity access 77% (97% rural)
The Case of Zambia – The Key Issues (2)
Load Forecast

Source: Energy Regulation Board

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The Case of Zambia – The Key Issues (3)

• Performance of state owned vertically integrated utility ZESCO poor
  – ROCE close to zero
  – Interest cover less than 1x
  – Debtor days around 5 months
  – Not necessarily surprising given low tariff level

• Contrasts with better performing Copperbelt Energy Corporation (privately owned and listed) which contracts ≈50% of ZESCO’s generation
The Case of Zambia – The Key Issues (4)

• Pipeline of prospective generation projects in the order of US$2Billion
  – Includes flagship ≈750MW, ≈US$800Million Kafue Gorge Lower
  – Project implementation project slow
The Case of Uganda – The Key Issues (1)

- **Unbundled ESI**
  - Private generation and distribution, transmission state-owned single buyer

- **Highest tariffs in East and Southern Africa**
  \[ \approx \text{US}\$18/kWh} \ (\text{M5.22/kWh}) \]
  - Due to drought and emergency thermals (diesel and HFO based)
  - Govt./World Bank tariff subsidy of
  \[ \approx \text{US}\$120\text{Million/annum} \]
  (Retail tariffs have not been increased since 2006)

- **Installed capacity 560MW, firm capacity 305MW, April 2009 peak demand 309MW**
The Case of Uganda – The Key Issues (2)

UGANDA DEMAND FORECAST

Source: Energy Policy Formulation in Uganda
http://eneken.ieej.or.jp/data/2698.pdf
The Case of Uganda – The Key Issues (3)

- No access to electricity 90% urban 95% rural
- Generally quality and reliability poor on account of legacy issues and the “power emergency”, however instances of load shedding reduced
- Distribution losses ≈ 36%
- Sector financially viable and private players protected through escrow accounts and sovereign guarantees
- Construction of flagship 250MW Bujagali project well underway (commissioning 2010/11)
What are we learning?
Regulatory Governance - Independence

• Regulatory authority enshrined in Law
  – Requisite powers for tariff setting and technical standards though seeing different approaches for licensing
  – Appointment and tenure of commissioners laid out and protected in law but in some cases interpretation of other legislation has lead to “disappointment”

• Regulators adequately funded (better than civil service)
  – However restriction of administrative authority (e.g. determination of conditions of service) seen as deterring key talent in some regulators
  – Turnover of key staff is high and poses a risk to the quality and robustness of regulatory decisions
Regulatory Governance – Independence (2)

• African regulators beginning to establish a track record
• Regulators using the law as a protection of their independence
e.g. “Minister the Law does not allow you to do that”….“Minister you have
to put that instruction in writing”
• However regulators facing constant and intense informal pressure
  – Dismissal of Boards in Zambia prior to end of terms through the
    application of legislation other than primary electricity law
  – Conduct of police searches of the regulator offices in Uganda coupled
    with the institution of an independent enquiry by the Minister into tariff
determination

“The government has lost a lot of money in the power sector through mismanagement. I cannot go into details because we have just opened an enquiry.” Judith Nabakooba – Uganda Police Spokesperson
Regulatory Governance - Accountability

• Typical end of year audits by external auditor
• No history of independent regulation impact assessment or regulatory performance audits
• Appeals process provided in legislation yet to be tested
  – Perhaps understandable on account of infancy of regulation in Africa
  – State owned enterprises typically not amenable to public confrontation
  – With increasing need for private sector participation this likely to be tested
Regulatory Governance - Transparency

• In Namibia board meetings open to public
  – However poor public interest (only one member of the public attends!)

• In Zambia and Uganda public hearings for every tariff review
  – However limited public interest
  – Some belief that public hearings are a window dressing exercise

• Website publication of decisions and key regulatory matters
  – Regulators need to be more proactive in this area and engage with wider public more

• Media not fully understanding the regulatory role especially key aspects such as the broad basis for tariff determination
Regulatory Substance – Market Access and licensing

• Hybrid power markets prevalent
  – Dominant vertically integrated state-owned utility (Uganda an African exception though state maintains a dominant role through provision of transmission infrastructure and its single buyer function)
  – Attempts to attract large IPPs (≈ US$1Bn for some projects) for some years e.g.
    • Kudu Gas – Namibia
    • Kafue Gorge Lower – Zambia
    • Uganda’s Bujagali though initially delayed now under construction and could provide important lessons
  – Lack of clarity on the process used to select private or public participation at potential sites
  – Role of state-owned utility potential source of discomfort for private sector players
Regulatory Substance - Prices and Tariffs

- Tariffs below cost reflectivity – even in Uganda the end-user tariff does not reflect full cost
- Formidable challenge to reach cost reflectivity especially given current environment and the effect on currencies on commodity dependent economies
- ROR regulation widespread
  - Asset valuation method key variable in tariff determination
  - Determination or appropriate rate of return a challenge when capital markets lack depth
- Some debate on the regulatory role in PPA negotiations for potential new build projects
- Need for tariff structures that more effectively target the poor including measures that incentivise increased access to electricity
Regulatory Substance - Planning and Resource Adequacy

- Arguably a key cause of current supply deficits
- Uncertainty in planning responsibilities abound
  - Who plans?
    - Utility – Is it an impartial plan?
    - Government – do they possess requisite capacity?
  - Who is supplier of last resort?
    - Is this laid out in policy/legislation/rules?
  - No national electricity system supply standard
    - Could define the key parameters for expansion planning in an objective and transparent manner
Regulatory Substance - Demand Side Management

• Some initiatives undertaken, urgency high when supply/demand balance was precarious before “demand destruction” on account of global economic turmoil
  – Distribution of subsidised or free CFLs
    • Sustainability questionable
  – Time of use tariffs
    • Load shifting effect still to be gauged
Conclusion
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Muito obrigado!!
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