



Regional Electricity Markets: Perspectives on Harmonization of Contractual and Commercial Arrangements

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Outline

- Introduction
- Drivers for Regional Markets
- Key Contractual and Market Arrangements
- Challenges
- Conclusion



Introduction

- More and more countries are coming together to establish regional electricity markets
- Examples of such arrangements include South African Power Pool, Central America Electricity Market, West African Power Pool etc.
- Effectiveness of such pools depend largely on robust contractual and market arrangements
- Degree of harmonization necessary for such arrangements to work properly



Drivers for Regional Electricity Markets

- Competitive Pricing for Electricity
- Leveraging on Economies of Scale
- Bridging gap between supply and demand
- Tool for regional integration
- Promotion of cheaper sources of power generation
- Regional Economic Development



Key Contractual and Market Arrangements

- Regional Power Pools often preceded by an international treaty
- In West Africa, we have the Energy Protocol
- Regional Electricity Markets predicated on the principles of:
 - Competition and open Access
 - Reciprocity
 - Gradualism



ECOWAS VISION : Energy Protocol

Abundant Energy Resources within ECOWAS Region

Inadequacy power supply - demand

Unequal geographic distribution of resources

West African Power Pool (WAPP)

DEVELOPMENT OF POWER SUPPLY INFRASTRUCTURE

- Hydro & thermal
- Interconnection lines

DEVELOPMENT OF A REGIONAL POWER MARKET
(Optimization of resources use)

Key Contractual and Market Arrangements cont'd

- Market Arrangements can be based on bilateral contracts or market contracts
- Bi-lateral arrangements between utilities of two countries may require:
 - Power Purchase Agreements (PPA)
 - Use of Network Agreement
 - Transmission Service Agreement
 - Fuel Supply agreements etc.



Key Contractual and Market Arrangements cont'd

- Rules governing regional markets include:
 - Market rules
 - Network security & reliability Rules
 - Congestion Management Rules
 - Connection agreements
 - Third Party Access Rules
 - Balancing Rules
 - Data exchange & Settlement Rules

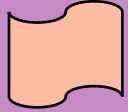


Key Contractual and Market Arrangements cont'd

- harmonized transmission tariff methodology
- Uniform dispute resolution mechanism
- Uniformity of energy efficiency framework
- Strong and independent national regulators
- Unbundling of Services – separation of transmission from system operations
- Harmonization of national development plans for transmission networks



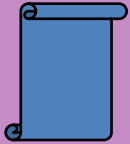
Market



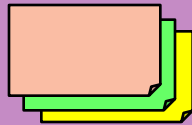
Bidding



Customer Data



Contracts

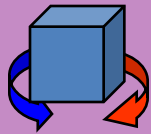


Billing & Financial Systems

WAPP Database



Scheduling & Dispatching



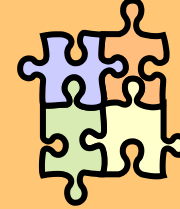
Settlements



Market Systems Reports

Operation

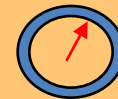
Technical Standard and Procedure



Maintenance Coordination

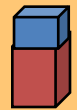


Emergency Procedure



Metering Standards

Reserve Requests



Challenges

- Differences in structure of national markets - unbundled vs. vertically integrated monopolies
- National or regional interest; which should come first in case of inability to meet supply obligations
- Economic vs. political expediency
- Transmission service pricing and end-user tariffs
- Reliability issues with transmission networks
- Ability of utilities to provide required transmission infrastructure
- Balancing regulatory mandates of national vs. regional regulators



Prospects

- Regional integration offers a great opportunity for consumers to access competitive prices for electricity
- Integration encourages joint infrastructure (generation & transmission) development through the pooling of resources of different countries
- Promotes energy efficiency through focus on diversified energy sources especially renewable energy



Conclusion

- Regional electricity markets serve as an engine for economic development within the region through provision of reliable electricity at affordable cost
- Establishing a robust market arrangement frameworks necessary to ensure the efficiency and success of regional electricity markets



Thank You

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