

ABSTRACT

The global growth and transformation desire is underpinned by energy constraint. The energy policy agenda is posed to providing finding pathways for adequate, affordable and sustainable power to humanity. Scholarly literature relates a number of policy packages in developed and developing world to provide solutions to a host of energy related challenges. The study picks interest in integrated energy market approach and studies it in relation to developing countries with specific scope of East Africa Community (EAC).

Despite the signing of the protocols that establish EAC integrated electricity market, the actual market remains ineffective. This study investigates the preconditions of an integrated energy market to ascertain the economic viability of electricity trading in the EAC. These preconditions are; policy harmonization, market efficiency, infrastructure adequacy and price convergence possibilities.

The EAC partner states endowed with varying energy resources have implemented relatively varying energy policies. This has resulted into varying supply and absorption capacities. Sampling on electricity, some countries have supply deficits while others have supply surpluses. This study considers electricity trading through a unified regional market as a possible strategy to solving such disequilibria persistent in the EAC. It aims at establishing how energy market integration that promotes electricity trading between the six countries, namely Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda. In 2010, these EAC partner states signed a regional power market protocol that created EAC power pool (EACPP). The progress of development of this market to effectively operate as a trading block was not sufficiently provided for in the literature reviewed enroute this study. To achieve the purpose of the study, four (4) objectives were derived: (i) to assess the extent to which tariff recourse policies in partner states of EAC are harmonized. (ii) to assess the market efficiency of EAC electricity market. (iii) to assess the adequacy of power pool infrastructure to promote electricity trading in EAC. (iv) to assess the possibility for electricity prices across the EAC domestic energy markets to converge towards a single price.

Depending on study objectives, various methods of analysis were used: - for objective (1) The Pattern Matching Procedure (PMP) was used; for objective (2) Relative Efficiency Trend Technique (RET) was used; for objective (3), Resource Adequacy Assessment (RAA) framework and Earned Value Analysis (EVA) model, were used; while for objective (4) Fixed Effects model and Johansen Co-integration test were used.

The study findings provide evidence that formation of EACPP market has had significant improvements in market management, increase in stock of electricity infrastructure, and relative tendency for electricity prices to converge. However, the recorded improvement in these market measurement variables is not synonymous with actual electricity trading in the region. The existing electricity exchanges between the countries is majorly driven by energy security objective rather than electricity trading. The study earmarks associative barriers that impede effective operation of the market in respect to market governance, infrastructure development and price convergence in the region. The study delineates a set of policy implications, limitations of the study and areas for further research which are derived from the findings of the study.