

Long-term energy scenarios (LTES) for developing national energy transition plans in Africa

Webinar series

Ghana' Experience

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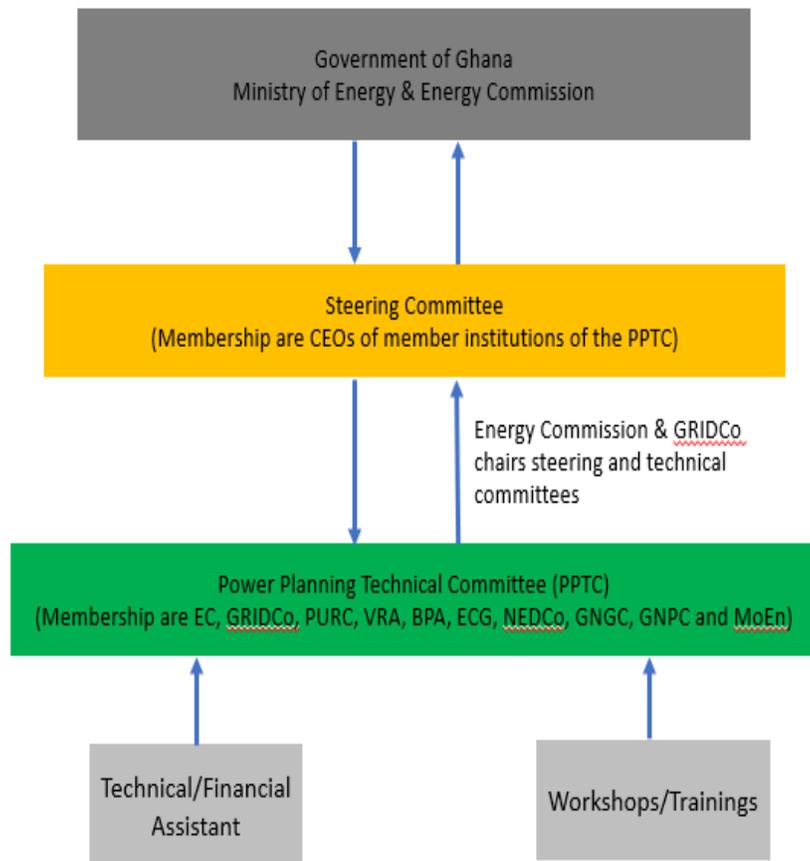


Energy Planning in Ghana

- In the past, energy plans in Ghana were done in a less collaborative and coordinated manner.
- To cure this, a more collaborative approach was employed during the development of an Integrated Power Sector Master Plan (IPSMP), which was a long term generation capacity expansion plan for Ghana.
 - IPSMP development was led by the Energy Commission (EC) with technical and financial support from USAID through the USAID/Ghana Integrated Resource and Resilience Planning (IRRP) project
- To sustain this approach, a Power Planning Technical Committee (PPTC) was formed following the recommendation in the IPSMP report

Current Governance structure in Ghana

Governance Structure



Planning guidelines for PPTC



- Provide an overall guideline for the development of the planning process,
- Ensure consensus among key stakeholders on input assumptions for the planning process,
- Ensure harmonised electricity demand forecasting for the Ghana power system, and
- Guide the development of a common least-regrets electricity generation capacity expansion plan for Ghana

LTES Developed in Ghana

Scenario	Description	Justification
Unconstrained	Reference Case assumptions on demand, technology costs, gas resource availability. No other technology-specific constraints on build options	Determine the optimal technology portfolio to achieve lowest cost of electricity
Diversify with Coal	Reference Case assumptions on demand, technology costs and forcing of coal power plant	To assess the viability of coal
Diversify with Nuclear	Reference Case assumptions on demand, technology costs, and forcing of nuclear power plant	Assess the economic viability of nuclear and decrease CO ₂ emissions
Diversify Geographically	Reference Case assumptions on demand, technology costs and building PPs in other load centres	Improve reliability in the grid network and reduce transmission loss
Renewable Energy Master Plan (REMP)	Implementation of on-grid utility-scale RE capacities identified in the Renewable Energy Master Plan (REMP)	Decrease CO ₂ emissions and Reduce fuel import dependency
Enhanced G-NDC (Reduced CO ₂)	Reference case assumption, and constrain CO₂ emissions to half of unconstrained strategy emissions	Enhanced CO ₂ reductions by implementing GH-NDCs

Conclusions

- A more collaborative approach among energy sector agencies exist in Ghana with the formation of the PPTC as a way of institutionalisation
- Members of the PPTC undergoes series of scenario modelling trainings
- The results of the LTES is communicated to a wider stakeholder for their comments before submitting to the sector Ministry for adoption and implementation

Thank you for your attention



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