

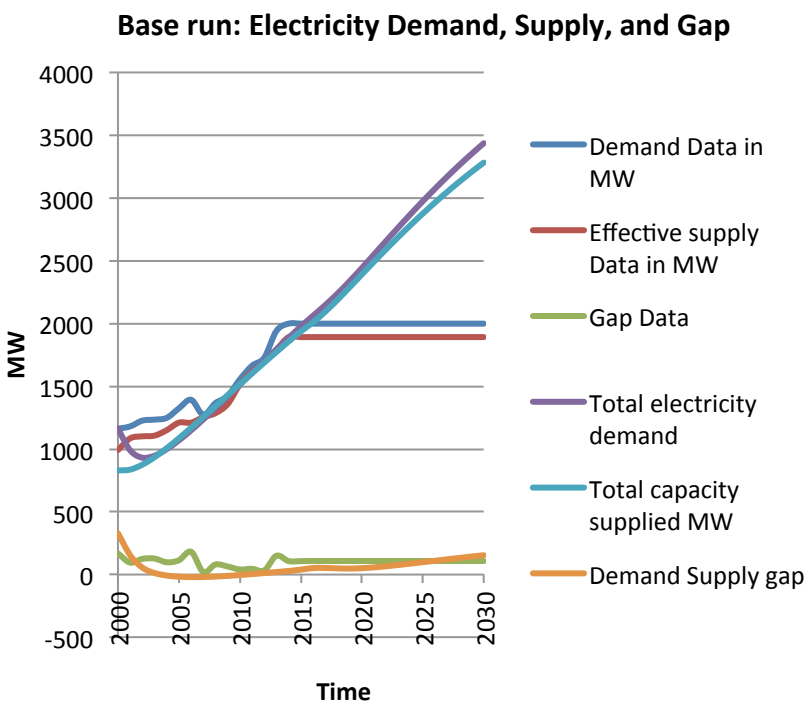
Sustainable Energy for Sufficient Electricity Supply in Ghana

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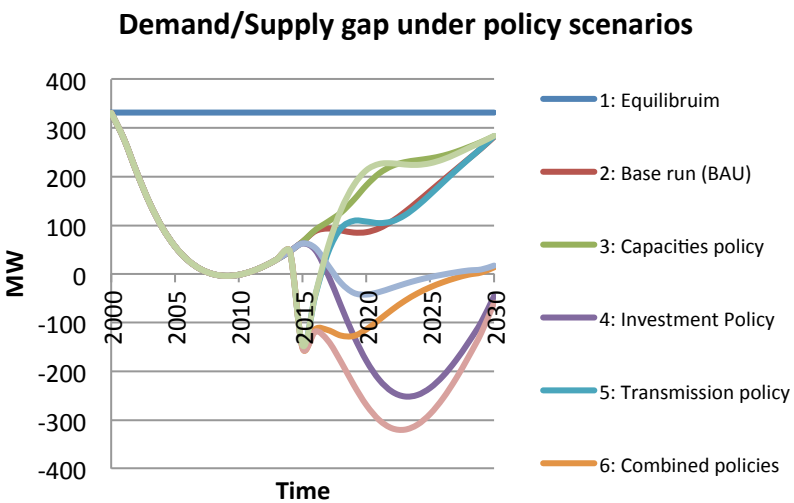
INTRODUCTION/BACKGROUND

- ◆ Ghana has been experiencing electricity supply deficit over the past decade.
- ◆ The annual gap between the electricity demand and supply has been a major concern in the country.
- ◆ Even though this challenge often seems temporary, it has never been fully resolved.
- ◆ The electricity gap in Ghana is attributed to underutilization of existing capacity, significant loss of power generated through transmission and distribution, low investment in the electricity sector, and low electricity tariffs.

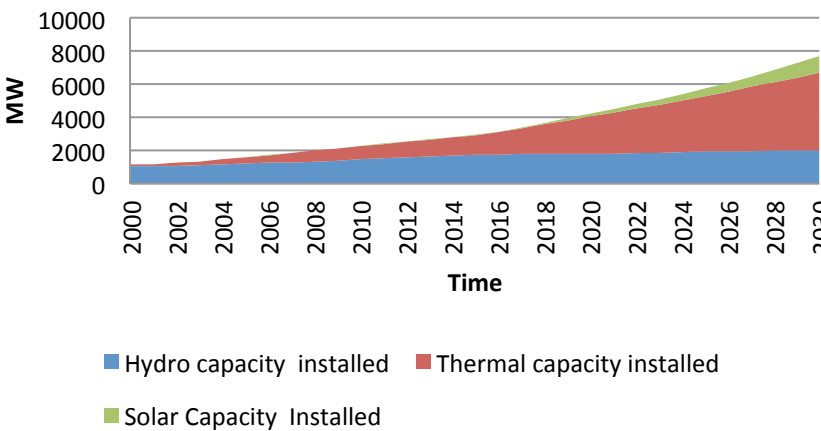
RESULTS



POLICIES



Total installed capacities with all policies activated

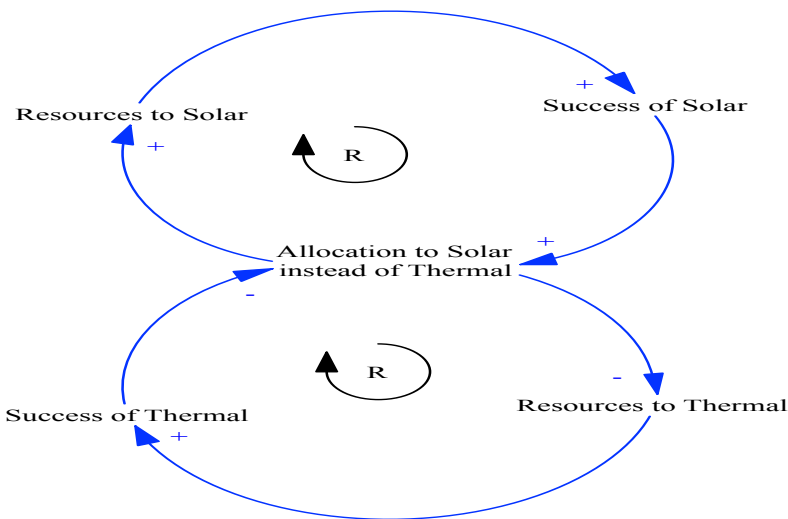


CONCLUSIONS

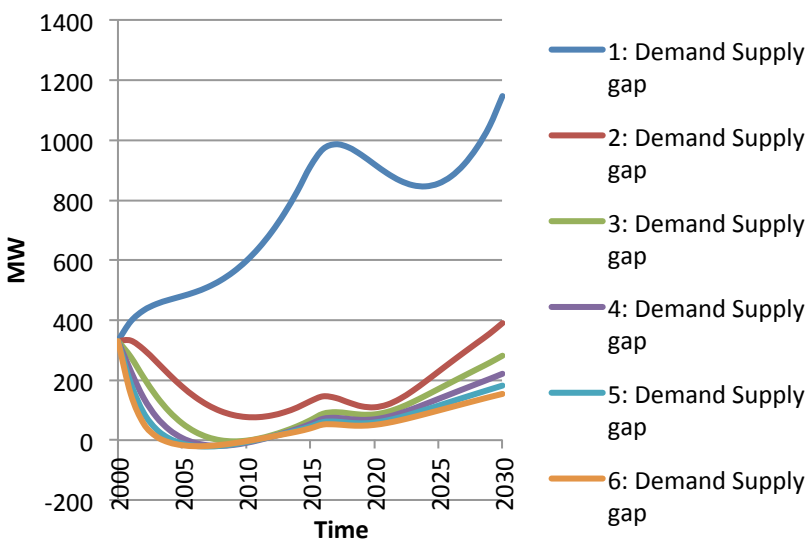
- ◆ Declining cost of solar coupled with the constant gas shortages for thermal plants makes solar ideal power source for future energy needs in Ghana.
- ◆ There is need for review of current regulatory framework to encourage private sector participation in energy sector.
- ◆ A market pricing system is required reduce government's debt on electricity subsidy.

METHODOLOGY

A System Dynamics model replicating the Ghanaian electricity sector is developed to aid understanding of the complex feedback loops.



Effect of price sensitivity on Electricity Demand Supply Gap



Price sensitivities (1: 0; 2: 0.4; 3: 0.8; 4: 1.2; 5: 1.6; & 6: 2.0)

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