

Dynamics of Electricity Supply and CO2 Emissions; A System Dynamics based Investigation of Pakistan's Case.

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There seem to be several advantages in using System Dynamics modelling to understand the dynamics of newly privatized industries. System Dynamics model can develop insights on the possible evolution of industry from public to private ownership. The implications of private investment for various domestic priorities and international obligations can be examined under various scenarios. As part of privatization of Pakistan electricity industry, the government has promulgated investment incentives to attract the IPPs offers of investments. We have modelled capacity investment in light of these incentives. Over model focuses on how the long term development of capacity mix is likely to evolve, to what extent the electricity supply sector is becoming dependent on fuel imports, and how do the environmental considerations (CO2 tax) impact the investments in the competing electricity supply technologies. The model is calibrated and validated utilizing the case-specific (Pakistan's) data.