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Long-Term Sustainable Energy Supply and Mitigation of Greenhouse Gas Emission in Bangladesh

M. Khalaquzzaman, J.H. Kim

Abstract

A comparative study of long-term energy demand and potential greenhouse gas emissions projections from energy sector of Bangladesh was carried out covering the period 2000-2020. The study was conducted employing the IAEA's energy modeling tool, ENPEP- BALANCE, which has been employed by many developing countries. This paper presents long-term energy demand forecast, future energy security, and potential options to minimize carbon gas emission from the energy sector of the country. The primary energy demand distributed by energy carriers and electricity demand have been forecasted based on two macro-economic growth scenarios constructed for Bangladesh National Energy Policy (BNEP). Starting from 187 million boe (barrel oil equivalent) primary energy consumed in 2000, the analysis projected an energy demand growth to about 545 million boe and 453 million boe by 2020 for the high and low growth scenarios, respectively. Gross electricity generation of 16.57 TWh (terawatt hour) in 2000 will grow up to 90 TWh and 69 TWh for high and low scenario, respectively. The conservation of indigenous energy resources and other imported potential energy supply options including nuclear energy were analyzed to build a long-term secured energy supply system for Bangladesh.

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