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Technical and Economic Viability of A Proposed Solar Street Lighting System for SUST

Md. Rabiul Hasan, Muhammad M. Hasan, Ranjit Biswas and Md. MasumParvej

Department of Industrial and Production Engineering

Shahjalal University of Science and Technology

Sylhet-3114, Bangladesh

rabiulsustipe@gmail.com, muhammad-ipe@sust.edu, ranjit.ipe94@gmail.com, mpsohelsust@gmail.com

Abstract

Renewable energy is attracting both public and non-governmental investments to supply energy for the population living in Bangladesh. Financing people for installing those renewable energy systems is crucial for a sustainable energy growth. In this paper, the economic feasibility and greenhouse gas emission of a proposed solar street lighting system for Shahjalal University of Science and Technology (SUST), is analyzed by using the 'RETscreen' software. For 25 years project life time, the equity payback period for the solar project is found 13.6 years. The internal rate of return (IRR), net present value (NPV), benefit cost ratio (BCR), annual life cycle saving are found 7%, BDT 35685, 2.6 and BDT 1427 respectively which indicates its acceptability as a feasible project. The proposed solar street lighting project for SUST is estimated to reduce 100 kg of emission per year which shows the environmental benefits as well.

Keywords

Solar street lighting, Financial analysis, Emission Analysis.