

Case Study Topic:***ECONOMIC FEASIBILITY STUDY ON REMOTE AREA ELECTRIFICATION IN INDIA USING SOLAR PHOTOVOLTAIC SYSTEMS*****Abstract:**

Rural and remote areas continue to be home to majority of population in India. As per recent statistics, around one lakh rural villages (including many remote hamlets) still do not have access to electricity in India.

This paper presents a study pertaining to the economic feasibility of implementing stand-alone photovoltaic (PV) system to fulfil very basic electricity needs for a single residential household in remote hamlets in India.

The design of suggested system is carried out, considering site solar radiation data and the electrical load data of a typical household in hamlets. Based on the load estimation, PV panels and BOS (Balance of System) components are sized

The life cycle cost (LCC) analysis is also conducted to assess the economic viability of the system.

The results of the study encouraged the use of PV systems to electrify the remote sites of India which will have a direct impact on social uplifting of people living in remote areas in India.