

Detailed Feasibility and Design of a Grid-Tied PV and Building Integrated Photovoltaic System for a Commercial Healthcare Building

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Abstract : Grid-connected PV systems have drawn tremendous attention of researchers in the past recent years. The report elucidates the development of efficient and stable solar PV energy conversion systems after thorough analysis at various facets like PV module characteristics, its arrangement, power electronics and MPPT topologies, the stability of the grid, and economic viability over its lifetime. This report and feasibility study will try to bring all optimizing approaches and design calculations which are required for generating energy from BIPV and roof-mounted solar PV in a convenient, sustainable, and user-friendly way.

Keywords : building integrated photovoltaic system, grid integration, solar resource assessment, return on investment, multi MPPT-inverter, levelised cost of electricity

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