

Solar Energy Management: A Case Study of Bhubaneswar City

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Abstract : Solar energy is a clean energy source. Because it is readily available in India and has many potential decentralized uses, urban local authorities may use it in various ways to manage the energy needs in the territory under their control. Apart from these and other services for which people pay a substantial number of money, urban local councils play a crucial role in administering essential services like water supply, street lighting, and health care. ULBs may contribute considerably to the transition to solar energy, both for their benefit and simultaneously for several additional direct and indirect advantages at multiple levels. The research primarily focuses on using clean energy management to reduce urban areas' reliance on traditional (electricity) energy. A technique for estimating the rooftop solar power potential using GIS (Geographical Information System) is described. Given that the combustion of fossil fuels produces 75% of India's power, meeting the country's energy needs through renewable energy sources is a step toward sustainable development and combating climate change. The study will further help in categorization, phasing, and understanding the demand and supply and thus calculating the cumulative benefits. The main objectives are to study the consumption of conventional energy in the study area and to identify the potential areas where solar photovoltaic intervention can be installed.

Keywords : solar energy, GIS, clean energy management, sustainable development

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