

Nigeria Energy Security: The Role of Solar Batteries

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Abstract : Nigeria's renewable energy market is expanding due to increased environmental awareness, supportive government policies, and the need for energy diversification. This paper examines the role of solar batteries in enhancing Nigeria's energy security. With growing energy demands and frequent power outages, integrating solar batteries presents a viable solution to stabilize the energy supply. The study investigates the current state of solar battery technology in Nigeria, its economic and environmental benefits, and the challenges to implementation. Through a literature review, case studies, and stakeholder interviews, the paper provides a comprehensive analysis of solar batteries' contribution to a resilient energy future. Key players include Engie SA, TotalEnergies SE, Starsight Energy, Enel SpA, and North-South Power Co. Ltd. Challenges include high upfront costs, inadequate policies, weak infrastructure, and security risks. The paper recommends that the government should strengthen policies and incentives to encourage investments through tax breaks, subsidies, and financial incentives.

Keywords : renewable energy, solar batteries, energy security, Nigeria's electricity generation, job creation

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