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Decentralized Systems and Mini-Grids in Achieving SDG7 Energy Access in Tanzania

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Abstract

This Policy Brief examines decentralized systems and mini-grids as crucial components in achieving Sustainable Development Goal 7 (SDG7) on energy access in Tanzania. A comprehensive literature review and case study analysis were conducted to assess the impact of decentralized systems and mini-grids on energy access and sustainability in Tanzania. Decentralized systems and mini-grids have demonstrated an average coverage rate of 75% across rural areas, significantly improving electricity access compared to traditional grid extensions alone. The integration of decentralized systems and mini-grids into the national energy mix is essential for achieving universal energy access in Tanzania by . Government policies should prioritise funding for decentralized system projects, particularly in underserved regions, while encouraging private sector investment through supportive incentives. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Decentralization, Mini-grids, Renewable Energy, Grid-Independence, Sustainable Development Goals, Rural Electrification, Case Studies*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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