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Solar Urban Planning in African Cities: Challenges and Prospects

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Abstract

This chapter aims to identify and evaluate the opportunities and challenges of solar urban planning in Africa's cities. Using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines, 37 publications were selected and thematically analysed. It emerged that the vast solar energy potentials, formalised urban planning systems, declining costs, and rising acceptance of solar PVs are key opportunities for solar urban planning. Urban informality, inadequate technical expertise, regulatory bottlenecks, and non-compliance with building regulations are critical barriers to Africa's solar urban planning. Research on the subject was found to be limited. Studies that explore decision support systems and strategies for integrating solar concerns into urban planning using multi-criteria assessments will be instrumental for realising this concept in Africa.

Keywords

- **Africa**
- **Cities**
- **Energy transition**
- **Solar energy**
- **Sustainability**
- **Urban planning**

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