Climate Certificates and Urban Renewable Energy Investments in South Africa: A Scoping Review

Kgoshoa Magano[1,2]**, Mpho Mokgatlo**[2]**, Sibusiso Dlamini**[2]**, Gqoba Molapo**[3,4]

[1] Department of Research, University of the Western Cape

[2] SA Medical Research Council (SAMRC)

[3] University of Venda

[4] University of the Western Cape

Author notes

Kgoshoa Magano is affiliated with Department of Research, University of the Western Cape and focuses on Environmental Science research in Africa.

Mpho Mokgatlo is affiliated with SA Medical Research Council (SAMRC) and focuses on Environmental Science research in Africa.

Sibusiso Dlamini is affiliated with SA Medical Research Council (SAMRC) and focuses on Environmental Science research in Africa.

Gqoba Molapo is affiliated with University of Venda and focuses on Environmental Science research in Africa.

Abstract

Climate Certificates (CCs) are financial instruments designed to incentivize renewable energy investments in urban areas by certifying a certain percentage of electricity from renewable sources. A comprehensive search strategy was employed using databases such as Web of Science, Scopus, and Google Scholar. Studies were included if they provided data on CC impacts within South African cities between and . The analysis revealed a significant increase in renewable energy investments from urban areas following the introduction of CCs, with an average proportion of at least 25% certified by these instruments. CCs have successfully catalyzed substantial investment in renewable energy sources within urban South African contexts, though challenges such as low uptake remain. Further research should focus on understanding the effectiveness of CC policies and their impact beyond urban areas, with recommendations for policy makers to enhance implementation strategies. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\,X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, renewable-energy, econometrics, certification, diffusion, green-development, stakeholder-analysis*

ABSTRACT-ONLY PUBLICATION

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

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge