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REVIEWER'S REPORT

Manuscript No.: **IJAR-54001** Date: 24-09-2025

Title: VERS UNE EFFICACITE Ã‰NERGETIQUE UNIVERSITAIRE EN AFRIQUE DE L\'OUEST : Ã‰TUDE MIXTE ET MODELISATION STRUCTURELLE A L\'UNZ-KOUDOUGOU

Recommendation:
Accept

Rating	Excel.	Good	Fair	Poor
Originality	Yes			
Techn. Quality		Yes		
Clarity		Yes		
Significance		Yes		

Reviewer Name: Dr. Ashish Yadav **Date:** 24-09-2025

Detailed Reviewer's Report

Reviewer's Comment for Publication.

ACCEPT

Introduction

The study addresses a critical issue of energy efficiency in African universities, focusing on the University Norbert Zongo (Burkina Faso). It highlights the paradox of rising energy demand in the Sahelian context versus limited institutional governance and behavioral practices, thereby positioning energy efficiency as both an environmental and developmental challenge.

Literature Review

The research builds on existing works linking awareness, attitudes, and behaviors in energy management but identifies a gap concerning Sub-Saharan African universities. It contextualizes the problem within the scarcity of empirical evidence in the region, especially in settings of energy poverty, and emphasizes the need for integrated behavioral and organizational approaches.

Solution Approach

A mixed sequential methodology was applied: (i) quantitative survey with 155 users, (ii) 41 semi-structured interviews, and (iii) an energy audit of the campus. Structural Equation Modeling (SEM) was used to validate causal links between awareness, attitudes, and behaviors, while typological analysis classified user profiles for targeted interventions.

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Results

Findings reveal a paradox of high awareness (3.87/5) but limited effective practices (3.21/5). The audit identified a potential 35–55% reduction in energy use (2,850 MWh/year) through optimized air-conditioning and improved lighting. SEM confirmed the moderating role of organizational factors, while typology highlighted "conscious-passive" users (28.4%) as key mobilization targets.

Conclusion

The study concludes that efficiency in Sub-Saharan universities requires holistic solutions, combining technical investments, organizational reforms, and behavioral interventions. It stresses the urgency of strengthening institutional governance and addressing "energy compensation" behaviors linked to energy scarcity in the Sahelian context.