ISSN: 2320-5407



International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: IJAR-51692

Date: 20-05-2025

Title: Assessing the Impact of LEED Buildings on Urban Heat Islands (UHIs): Challenges, Consequences, and Retrofitting Solutions

Recommendation:	Rating	Excel.	Good	Fair	Poor
Accept as it isYES	Originality				
Accept after minor revision	Techn. Quality				
Do not accept (<i>Reasons below</i>)	Clarity				
	Significance				

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper:

Recommended for Publication.

Comments (Use additional pages, if required)

Reviewer's Comment / Report

General Overview:

The paper provides a focused and timely analysis of how LEED-certified buildings mitigate the effects of Urban Heat Islands (UHIs). It explores three primary strategies—green roofs, high-albedo materials, and urban vegetation—highlighting their individual and collective roles in reducing urban temperatures, improving energy efficiency, and promoting sustainability. The study aligns well with global environmental priorities and urban planning objectives.

Abstract:

The abstract clearly outlines the research problem, methodology, and key findings. It succinctly presents the core strategies analyzed and briefly mentions the cities used as case studies. The mention of temperature reductions, biodiversity, pedestrian comfort, and air quality enhancement underscores the multi-dimensional impact of the LEED strategies. The abstract effectively sets the stage for the detailed analysis in the main body of the paper.

Structure and Organization:

The paper is logically organized, beginning with an introduction that frames the UHI issue within the broader context of urbanization and climate change. It then transitions smoothly into the role of LEED

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strategies in addressing these challenges. The structure is coherent, and the focus remains consistent throughout.

Content and Analysis:

The paper offers a comprehensive explanation of the mechanisms by which LEED-certified buildings can mitigate UHI effects. The discussion of green roofs, reflective materials, and vegetation is supported with relevant empirical data and case study references. The inclusion of both U.S. and U.K. cities adds comparative value, indicating an understanding of geographical and climatic variability. The connection between environmental design and public health is clearly established.

Methodology:

The paper employs a case-study approach to illustrate the real-world application of theoretical concepts. This method is appropriate given the nature of the subject matter, and the selection of diverse urban centers supports the study's aim of evaluating adaptability across different contexts.

Use of Sources:

The paper incorporates recent scholarly references, such as Meng et al. (2023) and Lien (2024), which indicate current engagement with the field. These sources are relevant and well-integrated into the discussion, helping to substantiate the claims made about LEED strategies and their environmental benefits.

Language and Style:

The writing is clear, concise, and academically appropriate. The terminology is consistent with the environmental and architectural discourse, and the tone remains formal and objective. The paper avoids redundancy and maintains a logical progression of ideas.

Scholarly Contribution:

The research makes a meaningful contribution to the discourse on sustainable urban development. By linking LEED certification practices with specific urban design outcomes, the paper highlights practical solutions to a significant global challenge. The emphasis on retrofitting also broadens the scope to include both new and existing infrastructure, enhancing the paper's relevance.

Overall Assessment:

This is a well-structured, well-researched, and analytically robust paper that addresses a critical issue in urban environmental planning. It successfully blends theoretical insights with practical examples and demonstrates a high level of academic and environmental literacy.