

Review Form 3

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_123378
Title of the Manuscript:	PV BASED MICROGRID DESIGN FOR REMOTE AREA ELECTRIFICATION IN NIGERIA: A SYSTEMATIC REVIEW OF CONCEPTS AND EXTANT STRATEGIES
Type of the Article	Review Paper

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>This manuscript is highly significant for the scientific community as it addresses a critical issue in Nigeria's energy sector by proposing renewable energy as a viable solution for achieving full electrification. The extensive review of over 120 papers provides a comprehensive understanding of the current state and future potential of off-grid PV systems, making it a valuable resource for researchers and policymakers. I appreciate the manuscript's thorough approach in covering various aspects of microgrid optimization and its emphasis on sustainable and reliable energy solutions, which are essential for economic and social development. Overall, this work contributes to the global discourse on renewable energy and offers practical insights for improving energy access in developing regions.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>Alternative Title:</p> <ul style="list-style-type: none"> • Optimizing PV Microgrids for Rural Electrification in Nigeria: A Comprehensive Review 	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<ul style="list-style-type: none"> • Clarify the Problem Statement: The first sentence could be more concise. "Centralized power generation, transmission, and distribution in Nigeria can no longer deliver affordable and reliable electricity to remote households, both on and off the national grid." • Line: 120 papers covering the past 15years in the off-grid PV sector. "There are on grid review as well [5] [72]" <p>Future Directions: Mention the importance of future research directions more explicitly.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>Yes, it is appropriate.</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<ul style="list-style-type: none"> • This manuscript is scientifically robust and technically sound due to its comprehensive review of over 120 papers spanning 15 years, which ensures a thorough understanding of the current state and advancements in the off-grid PV sector. • The inclusion of diverse sources such as scientific journals, conference papers, theses, books, and reports from governments and NGOs adds credibility and depth to the analysis. • Additionally, the manuscript's focus on microgrid optimization strategies, including design, sizing, siting, load estimation, and energy management, demonstrates a detailed and methodical approach to addressing the challenges of rural electrification. 	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>Total 81 references are reviewed in the paper including current year. So, references are sufficient.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Minor Corrections:</p> <ul style="list-style-type: none"> Fig. 4. And Fig.5 References are not mentioned in the caption. Correction in the Fig.1 Chart (Search Srategy, xplore) 	
<p>Optional/General comments</p>	<ul style="list-style-type: none"> In paper it is mentioned: "The country has an installed generation capacity of 15,000MW, but the available generation as at the end of April 2013 was a paltry 4000MW which cannot meet the expected demand of over 170 million people [38]." Latest generation and power demand must be included in the paper. In fig.1 it is mentioned that "English Written articles are excluded" Many articles are published in the English language, excluding such articles may results in loss of many information. 	

PART 2:

	<p>Reviewer's comment</p>	<p>Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

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<p>Department, University & Country</p>	<p>India</p>