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| Journal Name: | [**Journal of Energy Research and Reviews**](https://journaljenrr.com/index.php/JENRR) |
| Manuscript Number: | **Ms\_JENRR\_137947** |
| Title of the Manuscript: | **Data Centers Energy Consumption** |
| Type of the Article | Review Article |

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| **PART 1: Comments** | | |
|  | **Reviewer’s comment**  **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript addresses a critical topic at the intersection of energy efficiency and digital infrastructure. With data centers consuming a significant portion of global electricity, optimizing their energy usage is vital for sustainability and cost-effectiveness. The paper’s focus on emerging cooling strategies and efficiency metrics offers valuable insights for both academics and industry professionals working in sustainable computing  and infrastructure optimization. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | I think the title “Data Centers Energy Consumption” is too broad and generic.  Suggested title:  “Energy Consumption and cooling Efficiency Strategies in Data Centers: A Review” |  |
| **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.** | Partially. The abstract outlines the paper's scope but has grammatical issues and some redundancy. Phrases like "reduce energy use by making systems as efficient as possible" are not clear. Also, numerical estimates (like 50% electricity usage) should be better contextualized or referenced.  Suggested edits:   * Clarify the objectives: Is the paper an analytical study, case review, or literature synthesis? * Rephrase for clarity and remove redundancy. |  |
| **Is the manuscript scientifically, correct? Please write here.** | Yes, the manuscript is largely scientifically sound and grounded in current literature. It correctly identifies major energy-consuming components in data centers and compares modern cooling strategies using accurate formulas and real-world performance data.  Concerns to address:   * The thermodynamic equations are presented without proper formatting or full definitions in some places (e.g., chilled water section). * Some sections mix engineering detail with general commentary without transition. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | I see the most recent reference is from 2022, and considering the fast developments in  data center technologies and AI-driven optimizations, the inclusion of more recent studies (2023–2025) is highly recommended. |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language is understandable but has grammatical errors, awkward phrasing, and punctuation inconsistencies throughout. Example:  “Ther is a connection…” → should be “There is a connection…”  I think the article should undergo professional English editing before publication. |  |
| **Optional/General** comments | * Improve figure and table captions for clarity (e.g., Figure 3 should clearly relate to preceding text). * Ensure all technical terms (e.g., DCiE, LSI) are explained when first introduced. * Consider combining similar subsections (e.g., storage and servers) to reduce repetition. |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **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)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

**Reviewer details:**

**Abdellah Ouammou, Hassan first University, Morocco**