Review of: "Water-Energy Nexus in Power Systems: A Review"

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Potential competing interests: No potential competing interests to declare.

The paper addresses the water-energy nexus, focusing on various aspects such as cooling systems, water treatment technologies, and industrial water usage. However, there are several areas that need improvement in terms of clarity, depth, and technical detail.

Specific Comments:

- Page 1: The abbreviation "HE?" is used at the beginning without explanation. Clarification is needed to understand its significance.
- Page 2: Avoid the use of "we" (first-person plural) throughout the paper to maintain an objective tone.
- Page 3: Consistently refrain from using "we" to enhance objectivity.
- Page 3: Mention of Figure 1 regarding the cooling system is made, but the figure is missing. Ensure all referenced figures are included and properly labeled.
- Page 5: Reference to Figure 2 is made, but the figure is not provided. Include the relevant figure for clarity.
- Figure 3 is referenced in section II.E but is missing. Additionally, the necessity of ultra-pure water in semiconductor industries is mentioned but not elaborated upon. Include missing figures and expand on relevant topics for clarity and depth.
- Spelling and Grammar: There are several spelling errors throughout the paper. Proofread carefully to correct these mistakes.
- Repetitiveness: The paper tends to be repetitive, with sections feeling redundant. Streamline the content to avoid repeating information unnecessarily.
- Scope Gaps: The paper could include discussion on critical topics such as the amount of water required in the mining industry, desalination techniques, and human consumption. These aspects could be incorporated to enhance the quality.
- Technical Detail: In section II.C, while discussing water treatment technologies, ensure all relevant technologies are mentioned, and provide sufficient explanation on how they function.
- Analysis Depth: The initial pages feel repetitive, and the subsequent sections mainly compile existing literature without critical analysis. A review paper should provide a more critical analysis, identifying gaps and suggesting future research directions.
- Lack of Technical Depth: The paper lacks technical depth, especially regarding water treatment techniques,

desalination, solar desalination, ultra-purification, and water consumption in mining and power plants. These topics should be explored in more detail to enhance the paper's technical rigor.

Overall Assessment:

The paper presents a superficial overview of the water-energy nexus, lacking technical depth and critical analysis. To improve, the paper should address the highlighted issues, provide more comprehensive coverage of relevant topics, and offer a deeper analysis of existing literature, identifying areas for further research.