Review of: "Technical and Financial Viability of a 1 MW CSP Power Plant with Organic Rankine Module: Case Study for a Northeastern Brazilian City"

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Potential competing interests: No potential competing interests to declare.

Comments to Authors:

The current manuscript discusses about simulation of a 1 MW_e parabolic trough concentrating solar power plant in north-eastern Brazil. The work performed is interesting, which needs major revisions before to be published.

I recommend the following comments to be incorporated:
1. The last paragraph of the abstract is not meaningful. It should be rewritten with clear meaning. Also the authors should avoid using abbreviations in the title and abstract.

2. Why factor for calculating the HTF pump efficiency is assumed as 0.4? It should be supported by reference.

3. In the introduction section, the explanation following the cross-reference [9] lacks clarity for readers. A revision is suggested with a focus on improving understanding from the reader's perspective.

4. Figure 1 should be updated with latest information.

5. All the parameters and their significance should be discussed just after the equation.

6. Some of abbreviations are not defined for example UVAC.

7. What does e_{mo} stands for in equation 17?

8. Please elaborate what does authors mean by ORC module?

9. In Annual Simulation Section, following lines are quite confusing

At the first sunlight hour of the day, the radiation is still not enough to justify the startup of the system until around 7am, when the incident radiation reaches values close to 15MW so the HTF starts circulating and the ORC module starts its power production until it reaches base load operation with 1 MW gross output.

10. A figure showing all major components of power plant along with arrangement of solar field should be added in the manuscript.

11. In results and discussion section, the 1st paragraph lacks clarity for readers. A revision is suggested with a focus on

improving understanding from the reader's perspective.

12. In Tables 6 and 7, what is meaning of people attended? The results shown in these Tables should be properly discussed.

13. The Conclusion part lacks clarity for readers. Specifically the following lines;

Nevertheless, as the capital and OM costs of the power plant are analysed, it is possible to highlight the small contribution of the ORC module in those quantities, 12% and 8% respectively and the big majority presented by the solar field, 73.8% and 58% respectively. Given that, the paper points out the possibility of optimization mainly in the solar field, possibly by the implementation of a more recent model of collector. Another important remark is the advantage the TES brings to the feasibility of the project, since the lowest LCOE achieved without such a system was 197.47 USD/MWhe.

Hence, a thorough revision is suggested with a focus on improving understanding from the reader's perspective.

14. Also Revise the Language of the paper.

15. References are not uniformly written, and recent references are not cited.