

# 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.

Dear Authors,

I would like to thank you for the time and effort you put into making your research accessible to the wide energy research community. I provided some feedback that I believe will improve the quality of the manuscript.

## General Comments

1. The feasibility study is about Fortaleza, the capital city of Ceará, in the northeast region of Brazil. I suggest to attach its location to a map and present it in a figure.
2. Page 5, "as investigated by [6] who analyses". Please, write the name of the authors and then cite the reference.
3. Please, draw a process flow diagram (PFD) describing the interconnection between HCE, TES and ORC units and add the operating parameters (flow, temperature, pressure...etc.).
4. Please, review the manuscript for the purpose of correcting minor typographical errors and addressing grammatical issues.
5. I suggest to reformat the conclusion into bullet points.

## Technical Comments

1. Please provide a robust justification for the selection of the 1 MWe CSP/ORC.
2. In which software did the authors use to solve their model?
3. According to Table 1 (page 10), the operating temperature of the hot oil (HO) is 209/305 °C. There are numerous hot oils available, such as Therminols 59/62/66/68 (for example) that can operate within this temperature range. Why did the authors specifically opt for Therminol VP-1?
4. Kindly furnish additional technical information regarding the Thermal Energy Storage unit.
5. I recommend conducting sensitivity analysis as it is essential for evaluating investment risk.
6. Table 6, page 20. How did the authors estimate CO<sub>2</sub> reduction?
7. I recommend considering the systematic computation of economic indicators, particularly the Net Present Value (NPV) and the Payback Period (PP) of the investment.

