



Standalone Microgrid Design Software Tools Evaluation

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Software tools evaluation



- HOMER Pro and iHOGA PRO+ are found to be the publicly available software tools support standalone microgrid design, and HOMER Pro (version 3.16.2) and iHOGA PRO+ (version 3.4 build 20231114) have been evaluated.
- A total of 22 criteria, categorized under quantitative (1-7) and qualitative (8-22), are defined to evaluate these tools.
- Three cases are defined based on the geographical location (i.e., Australia, the Netherlands, and USA), with different system components.
- For the same input parameters in each case, their results (obtained from both tools) are compared using quantitative criteria.
- The qualitative comparison of these tools was independent of case studies presented.

Recommendations



- Simulations in both software tools have proven to match (within a reasonable tolerance) measurement data from a real microgrid (i.e., case study 1).
- However, both software tools arrive at slightly different optimum sizing when optimizing a microgrid from scratch (i.e., case studies 2 and 3).
- In summary, this report provides and analyses 22 criteria for comparison of HOMER Pro and iHOGA PRO+. However, per the user's requirement, the software must be selected based on the criteria that apply to their needs.

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