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Title: On the Design of Complex Energy Systems: Accounting for Renewables Variability in Systems Sizing

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**Highlights**

- A framework for the bi-criteria sizing of standalone hybrid energy systems is developed.
- Methodology combines stochastic modelling of renewables with chronological simulation for performance evaluation.
- Reliability objective quantifies the effect of weather-based variability.
- Results show that degree of variability is reflected in the range of the costs of Pareto-optimal designs.
- Methodology provides the designer with necessary information about alternative designs for sizing decisions.

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