

## Sustainable Refrigerated Transport Engineering

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**Abstract :** This article presents a study of the thermal performance of a new solar mobile refrigeration prototype for the preservation of perishable foods. The simulation of the refrigeration cycle and the calculation of the thermal balances made it possible to estimate its consumption and to evaluate the capacity of each photovoltaic component necessary for the production of energy. The study provides a description of the refrigerator construction and operation, including an energy balance analysis of the refrigerator performance under typical loads. The photovoltaic system requirements are also detailed.

**Keywords :** composite, material, photovoltaic, refrigeration, thermal

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