**Cover letter**

*Dear whole Editorial Board,*

We are honored to submit the paper “**Energy analysis of a real industrial building: model development, calibration via genetic algorithm and monitored data, optimization of photovoltaic integration**” to the Journal.

The proposed study performs the energy analysis of a real industrial building, located near Naples (South Italy). The used approach includes three phases: development of the energy model, model calibration based on monitored data and optimization of photovoltaic (PV) integration. Monitored data provide the monthly overall electricity demands of the facility for different years, while the load factors of industrial devices are not available. Thus, the assessment of hourly and daily trends of electricity demands and internal heat loads is not possible from monitored data. In order to solve such issue, the energy model of the building is developed under EnergyPlus environment, taking account of the existing PV system too. A genetic algorithm is run by coupling EnergyPlus and MATLAB® to properly calibrate the hourly load factors of the devices in order to achieve a good agreement between simulated and monitored values of monthly electricity demands. Finally, the installation of further PV panels is investigated to optimize the photovoltaic integration with a view to cost-effectiveness. The robustness of the optimization process is ensured using the calibrated energy model, which provides reliable hourly values of building electricity demand.

We consider the study particularly suitable to aims and scopes of the Journal.

Thank you for your kind attention.

Yours faithfully,

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The authors declare no conflicts of interest.