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Smart Energy Networks: Thermal Balancing and Managing Issues

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Message from the Guest Editors

Renewable smart energy grids promises to suitably address issues related to the environmental impact of the building sector, by supplying energy vectors with a limited environmental impact and primary energy consumption. On the other hand, the selection of the optimal layout, operating strategies, and component design parameters is extremely complex, considering the requirements in terms of grid thermal balancing and management.

The papers included in this Special Issue will focus on the thermodynamic and energy analyses of the components/devices included in the grid and on the grid as a whole. Moreover, papers may also focus on computational fluid dynamics analysis and/or stationary and dynamic simulations of specific components included in the grids (e.g., ground heat exchanger, novel heat exchangers, or thermal storages). Special attention will also be paid to the analysis of the thermal management of electrochemical storage systems, including in the grid, in order to improve the electrical stability.