

Special Issue

Transportation Electrification and Vehicle-to-Everything (V2X) Technologies

Message from the Guest Editors

The rapid advancement of transportation electrification is transforming the landscape of mobility and energy systems. With the increasing adoption of electric vehicles (EVs), there is a growing need to understand their impact on travel behavior, grid infrastructure, charging infrastructure, and overall energy management of facilities. This Special Issue aims to explore the multifaceted aspects of EV that connect building, transportation, and grid, in particular for their role as distributed energy resources in the grid. The aim of this Special Issue is to gather cutting-edge research, comprehensive reviews, and laboratory and field demonstrations on the various dimensions of transportation electrification, vehicle-to-grid integration, and value proposition of EVs in the grid. We seek contributions in the areas of travel behavior modeling, vehicle-to-grid (V2G), vehicle-to-building (V2B), and vehicle-to-everything (V2X) technologies. Additionally, we are interested in studies that investigate the potential of EVs to act as backup power sources for resilience and their management within charging infrastructures.

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