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Special Issue Reprint

Smart Electric Vehicle Charging Approaches for Demand Response

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This Reprint presents a collection of research focused on "Smart Electric Vehicle Charging Approaches for Demand Response," addressing the critical challenge of integrating electric vehicles (EVs) into smart grids. As the adoption of EVs increases, maintaining the balance between supply and demand within the electrical grid becomes more complex. This Reprint highlights innovative smart charging solutions, including vehicle-to-grid (V2G) and smart charging (V1G) strategies, which aim to enhance grid reliability through demand response mechanisms. The articles explore optimization techniques for assessing various demand response programs, taking into account grid and market requirements. Furthermore, the Reprint includes research on integrating renewable energy sources into EV charging stations, managing fleets of EVs, and optimizing microgrid operations under uncertainty. By bringing together diverse perspectives on smart charging, this collection of papers offers valuable insights into the future of EV integration and its impact on sustainable grid operations.

