

Development of KEPCO smart energy city operating system for integrating distributed energy resources

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Abstract

The Korea Electric Power Corporation (KEPCO) performs ‘Energy Valley infrastructure projects through smart grid technologies’ to demonstrate Smart Energy City for the efficient use of energy in the city. The purpose of this project is to provide sustainable development, carbon reduction and energy services in city through the ‘Smart City Integrated Operating System’ development. The system performs the energy management, power system operation to improve city energy efficiency and energy self-sufficiency. And the system establishes the city energy planning and provides services for citizens through the management and analysis of large volumes of data generated in the city. Also, it manages the city’s carbon emissions.

This paper mainly describes the features of integrated management of a variety of distributed energy source (renewable energy, ESS, EV, DR, etc.) is installed in Energy Valley from a variety of functions of the operating system.