Interactive energy management of micro-grid active distribution system, taking into account the coherence of renewable energy sources on a large scale.

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abstract: Today, the energy shortage crisis around the world has become one of the most serious problems facing the human community in the 21st century. Among the solutions available to deal with this crisis, it is possible to improve the efficiency of industrial, commercial and household energy consumption as the most efficient solutions. However, renewable energy sources have problems, which include: 1. Costs Extensive investment2-Time and space constraints. The existence of widespread electricity transmission networks remote locations to consumer centers is one of the characteristics of today's global power grids. This network layout causes a lot of troubles such as electric power losses on long paths as well as small network threats. Data collection in this research will be done in two ways: library and field studies. In the method of literature libraries and subject records, through vectorization, existing documents are investigated and in the field method, which is through the design of the questionnaire in this research, the variables being studied are studied. the library's method for collecting information In the field of backgrounds of internal and external studies. Using snippets books, theses, research and studies by other researchers, specialized journals and related information are gathered. This paper examines the limitations of the AC power grid and the provision of DC RIS as an optimal solution for managing the required energy. This paper proposes a renewable DC grid adaptable to an energy management system. It is expected that a Dedicated DC network will be reliable, maintain the quality of power supply, and only use renewable energy sources.

Keywords : energy shortages, costs, electrical energy, optimization