

Название публикации:

Development of consumers' behavior business model on energy market

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Аннотация:

The pace of transformation in the electric power industry around the world is gaining momentum due to the rapid development of technology. The possibilities for choosing the electric power company, as well as consumers of their products, are increasing. The role of the distributed energy is enhancing, which contributes to the development of supply and demand in this market. In this regard, approaches to management in the energy markets are changing to address the problems of cross-subsidization. The introduction of new technologies in the management of generating and network facilities makes it possible to become "active consumers" in the energy market. The purpose of our study is to assess the impact of cross-subsidies on changing active consumers' behavior in the energy market. We propose a mathematical model of the active consumers' behavior in the energy market, which allows the participants of the energy market to make decisions to "buy" or to "produce their own" electrical energy and provides recommendations for determining the economic benefits for active consumers of the energy market. The results of our study showed that the proposed model could be effective for energy sales companies and regulators that carry out multi-agent modeling of consumers' response to tariff mechanisms of demand-side management; it also can be useful for assessing the economic effect by consumers who participate in demand-side management.

Ключевые слова:

Active consumer, Demand-side management, Energy market, Mathematical model, Tariff