

عنوان مقاله:

Transforming Energy Systems in Smart Cities : A Review of Blockchain and Peer-to-Peer Energy Trading

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خلاصه مقاله:

As cities continue to grow and evolve, there is a growing need for sustainable and efficient energy systems. Blockchain and peer-to-peer energy trading have emerged as potential solutions to transform energy systems in smart cities. This review article provides an overview of the existing literature on the use of blockchain and peer-to-peer energy trading in smart cities, identifies key themes, trends, and gaps in the literature, and discusses the implications of these findings for the field of study and policy makers. The review finds that blockchain technology and peer-to-peer energy trading have the potential to improve the efficiency and sustainability of energy systems in smart cities by enabling decentralized and secure transactions. The literature suggests that blockchain technology can facilitate peer-to-peer energy trading, reduce transaction costs, and increase energy efficiency. However, there are also concerns regarding the scalability and security of these technologies. The review identifies several key themes and trends in the literature, including the potential of blockchain technology to enable decentralized energy systems, the importance of policy and regulation in facilitating the adoption of these technologies, and the need for further research on the social and economic impacts of blockchain and peer-to-peer energy trading. Despite the potential of these technologies, there are several gaps and limitations in the existing research. The review finds a lack of empirical studies on the use of blockchain and peer-to-peer energy trading in real-world settings, as well as a lack of research on the social and economic impacts of these technologies. The review concludes with recommendations for future research and practice, including the need for more empirical studies on the use of blockchain and peer-to-peer energy trading in real-world settings, the importance of policy and regulation in facilitating the adoption of these technologies, and the potential for blockchain and peer-to-peer energy trading to transform energy systems in smart cities.

کلمات کلیدی:

blockchain, peer-to-peer energy trading, smart cities, sustainability, energy systems

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