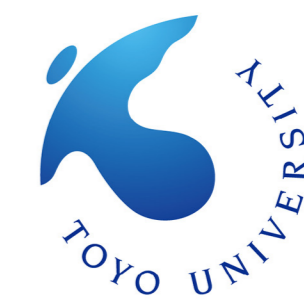




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## ENERGY COMMUNITIES and SMART CONTRACTS: *new legal models for the revitalization of internal and disadvantaged areas*

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### INTRODUCTION

Energy communities, intelligent and interactive ecosystems, will guide the future of sustainable energy: citizens, based on an innovative model of decarbonization, digitization and decentralization, will be the protagonists in the new forms of energy sharing. The use of digital technology and Smart Contracts, in favoring the *sharing economy*, will have a crucial role in terms of safeguarding data and protecting interests, but will make a significant contribution to the revitalization of internal and disadvantaged areas.



### RESEARCH OBJECT

The use of digital technologies allows us to start looking at a form of disintermediation of contractual relationships, which, if decentralized, can favor decarbonization through the creation of energy communities. With a view to sustainability, the widespread use of blockchain technology, suitable for ensuring the immutability and transparency of data, can help consumers access renewable sources and share excess energy. On this point, the role of smart contracts is relevant; these are innovative contractual models that can support and facilitate the production of distributed energy and promote peer-to-peer transactions, without the intervention of any intermediary.



### RESEARCH OBJECTIVES

The aim of the research is to highlight how the use of digital platforms in the energy sector proves to be an innovation capable of revolutionizing the energy market for the better, thus contributing to giving life to the most disadvantaged inland areas. In fact, not only would it make commercial exchanges between participants on the same platform faster and more effective, but it would give greater stability to the entire electricity network.

Indeed, it will be possible to have a rebalancing of contractual relations in the energy supply systems, favoring the creation of a decentralized energy sharing network in the form of an energy community.

The operating mechanism of the system would be based on the operation of two networks, connected to each other in a computerized way: one real and one digital. The first interconnects the market players through smart contracts and records the transactions, then communicating them to the physical network, in which the real transfer of energy takes place.



### CONCLUSIONS

The transition from the classic centralized architecture to a decentralized system is aimed at the establishment of energy communities; these, using the technology of smart contracts, voluntarily enter into a contract with the aim of producing, consuming and managing energy by exploiting local energy systems. This change is relevant as it frees us from centralized producers and allows us to reduce energy costs; moreover, it brings out a useful awareness in the fight against climate change in progress as well as the revitalization of the inland and economically most disadvantaged areas. This, increasing the share of energy generated from renewable sources, to safeguard the future of our planet.

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