Analysis of the Energy System by Energy Model Formulated as Multi-agent Simulation

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We introduce our global energy model formulated as multi-agent simulation based on reinforcement learning. Since conventional energy supply models were formulated as minimizing the total energy supply cost in the target area, it was very difficult on this model to consider the situation with conflicting interests. In our new model, agents such as nations and industries can charge energy premium prices on their exports or impose duties on their imports to minimize their energy system cost. We calculate by this model their optimal strategies and analyze energy prices and energy supply system on that occasion.

Keywords:
energy model, multi-agent simulation, reinforcement learning