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Architecture conception of energy internet and technical challenges

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This paper presents a new management system for energy internet based on hierarchical and independent principle. Every point connects each other and has its own scheduling rights. In previous work, we have analyzed the features, structure and technology system for energy internet and put forward the architecture conception based on Multi-agent system. Compared to current energy system, Multi-agent operation method can perform high efficiency. We also provide the functional detail of management system and point out the research direction of the key technologies to implement the function of multi-agent system.

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Optimization of the Fischer Tropsch process for the gasification of MSW

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The gasification of waste to produce biofuels through the Fischer Tropsch method is a technology with significant potential. The advantages of this technology is that it can accommodate a variety of waste materials to produce syngas. This syngas is then converted into fuels via the Fischer Tropsch method through reactions involving. The aim of this work is to optimize the gasification process to accommodate a feedstock variable in composition such as municipal solid waste to produce biofuels. Syngas composition will vary when processing MSW since the composition is inclusive of food wastes, paper, plastics, etc., at variables percentages. Therefore a reforming process to optimize the H_2 : CO ratio is required to maximize the efficiency of the process. The cost or method of reforming or reacting the syngas will play a crucial role on the economic viability of the process. The syngas is then passed to the Fischer Tropsch reactor in which reactions take place over a catalyst of either iron, cobalt or ruthenium depending on the H_2 : CO ratio and the desired end product.

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