

Sustainability of electrified energy system for industrial chemical processes

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Reduction of ambient temperature as well as the emission of greenhouse gases has been important issues, which were brought by the effectuation of Paris Agreement. For the successful accomplishment of the agreement, development in a sustainable manner is of concern. Especially, when it comes to the industrial energy system which is highly dependent on the fossil fuel, sustainable resources can be considered.

This study investigates various electrification options and their feasibility. The analysis of an energy structure of an industrial process is conducted with heat integration. Maximum energy recovery and required amount of utilities are examined for each processes, on which economic feasibility are assessed by taking into account both the use of renewable resources and fossil fuel.

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