

Economic and Environmental Evaluation for the Industrial Complex Energy Optimization Method

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Most chemical companies are trying to decrease energy consumption and environmental contaminations. However, there seems to be little significant energy saving opportunities in individual plants. For that reason, we should optimize energy consumption from the aspect of the entire industrial complex. There are a few energy optimization methods for an industrial complex. Those optimization methods are moderately assessed using three kinds of evaluation techniques: economic, environmental and technical evaluations. In this work, we suggested Steam Networking Matrices (SNMs) for steam exchange between companies to reduce energy consumption by optimizing the steam network of an imaginary chemical complex. Results show that we can reduce energy consumption but also operating cost by constructing new steam exchange networks.

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