

## Modeling and Optimization of Energy Network for the Industrial Complex

김상훈, 채송화, 윤성근, 박선원\*  
한국과학기술원  
(sunwon@kaist.ac.kr\*)

Recently due to the high oil price and environmental regulations, reduction of energy consumption is highly required globally. However there seem to be not many significant energy saving opportunities are left in individual plants. For that reason, optimization of the energy consumption from the aspect of the entire industrial complex has been focused. In this work, we suggest the energy network model and optimization technique to reduce energy consumption of a real data based imaginary chemical complex. Moreover, the optimization method was assessed using three kinds of evaluation techniques: economic, environmental and technical evaluation. Results show that we can reduce not only energy cost but also carbon dioxide and SOx emissions by constructing new energy optimization network.

### Acknowledgement

This research was supported by the Program for the Construction of Eco-Industrial Park (EIP) which was conducted by the Korea Industrial Complex Corporation (KICOX) and the Ministry of Knowledge Economy (MKE).