

### Enhancement of the dimethyl ether process by utilizing dividing wall column

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Crude oil and natural gas resources are decreasing significantly. Moreover, our environment is more and more contaminated by much toxic gas emitted from industrial activities. The process for the alternative fuel, dimethyl ether (DME), has become as an important process in petrochemical engineering field. DME is one of promising alternative fuel substitutes for petroleum diesel fuel and cooking fuel because it is a clean fuel with good characteristics. Moreover, it can be produced from fossil fuel feedstocks, as well as from renewable sources such as biomass. The main objective in this work is to utilize the dividing wall column (DWC) for saving energy and capital cost. Optimal design for DWC has been considered.