Improvement of energy performance by utilizing dividing wall column in dimethyl ether process

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The rise in energy demand as well as environmental concerns heightens the importance of engineering low-energy distillation configurations by revamping existing infrastructure. Furthermore, the process for the alternative fuel, dimethyl ether (DME), has become as an important process in petrochemical engineering field. DME has become one of promising alternative fuel substitutes for petroleum diesel fuel and cooking fuel due to 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 determine the application of using dividing wall column (DWC) for retrofitting the DME process. In that case, energy consumption as well as capital cost will be reduced.