ABSTRACT

Kerosene conversion into other fuels is a solution to reduce fuel subsidies, where kerosene gets the largest portion of it. Therefore, Indonesia’s Government decided to convert kerosene into LPG (Liquid Petroleum Gas), which is distributed in 3 kg packaging tubes. The distribution network is urgently needed in order to guarantee the effectiveness of conversion program. However, there is no network configuration for LPG distribution channel, primarily for its upstream supply chain. Therefore, this research aiming to design distribution network of 3 kg packaged LPG in Indonesia. Observed distribution parties are refineries, depots, and SPBE, where the demand on SPBE is aggregated into provincial demand. The design of distribution networks uses goal programming in assistance of lingo software. As a result, configuration of upstream supply chain network for 3 kg packaged LPG with minimum transportation cost is obtained. In addition, the configuration produces equality days of supply for all provinces, except the Province of West Java with the lowest days of supply.

Keywords: days of supply, goal programming, LPG 3 kg, upstream supply chain
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