Optimasi distribusi bahan bakar minyak (BBM) serta analisis kelayakan penambahan depot BBM : studi kasus di Unit PPDN II Palembang

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Abstrak

Pada penelitian ini ingin diketahui perbandingan biaya suplai dan distribusi antara hasil optimasi distribusi Bahan Bakar Minyak (BBM) serta analisis kelayakan penambahan depot Bahan Bakar Minyak dilokasi yang konsentrasi kebutuhan BBMnya tinggi (Alternatif 3) terhadap hasil optimasi distribusi Bahan Bakar Minyak dengan pengembangan di depot existing (Alternatif 2) maupun terhadap biaya suplai dan distribusi kondisi existing (Alternatif 1) di Unit PPDN II Palembang.
Hasil optimasi tersebut akan menurunkan biaya operasional Unit PPDN II pada khususnya dan Pertamina pada umumnya, sehingga akan menurunkan subsidi BBM atau menaikkan LBM (Laba Bersih Minyak). Subsidi BBM terjadi apabila total Biaya Pokok BBM lebih besar dibandingkan dengan total hasil penjualan (Harga Keppres), sebaliknya disebut LBW.
Untuk melihat perbandingan tersebut maka disusun langkah-langkah secara sistematis. Pertama dicari penghematan dengan menghitung dan membandingkan biaya suplai dan distribusi masing-masing. Langkah kedua dicari kebutuhan BBM dimasa yang akan datang untuk menghitung perbedaan biaya Investasinya. Langkah terakhir membandingkan penghematan terhadap perbedaan biaya Investasi.
Terlihat bahwa hasil optimasi suplai dan distribusi perbulannya lebih hemat sebesar Rp. 1.096.279.217 dibandingkan dengan pola suplai dan distribusi kondisi existing. Hal ini menggambarkan pola suplai dan distribusi existing belum effisien.
Sedangkan, meskipun penambahan depot dikonsentrasi kebutuhan BBMnya tinggi (Alternatif 3) lebih hemat dibandingkan dengan pengembangan depot di depot exsisting (Alternatif 2) tetapi menghasilkan NPV negatif. Hal ini disebabkan penghematan tersebut tidak sebanding dengan biaya Investasi yang harus dikeluarkan.
.....From this study, we would like to know the expenses comparison of supply and distribution between alternatives 1,2 and 3. Alternative three is the optimization result of fuel oil distribution and feasibility analysis of the fuel oil depot expansion in the location with full fuel oil concentration. Alternative two is the optimization result of fuel oil distribution with the development of existing fuel oil depot, while alternative one is the fuel oil distribution pattern and fuel oil depot development of the existing condition in the Domestic Supplying and Marketing Unit II (UPPDN II) Palembang.
The optimization result will reduce the operation expenses of UPPDN II especially and Pertamina in general, so that all this will reduce fuel oil subsidy and even increase net fuel oil profit. Fuel oil subsidy will occur when the total fuel oil expenses is higher compared the total sales revenue (President Decree for the fuel oil), or on the other hand, it is called net fuel oil profit.
To know the comparison, we are trying to apply a number of steps to anlyze. First of all, we try to search the most efficient way by calculating the expenses of fuel oil supply and distribution of each alternative. The second step is search the future fuel oil demand in order to calculate the difference of investment expenses. The last step to compare the efficiency against the difference of investment expenses.

It seems that the optimization result of supply and distribution per month is more efficient totaling Rp. 1.096.279.217 compared to the supply and distribution of the existing condition. All this indicated that supply and distribution patterns of the existing condition is not efficiency yet.

Alternative three with full concentration of high fuel oil demand which is more efficient compared with alternative two with the depot development of existing condition, however, the result is negative Net Present Value. All this is brought about that the efficiency is not suitable compared to incur expenses for investment.