

ABSTRACT

The making of isobutane from n-butane is an isomerization process, where this process is only to change configuration without changing the number of molecule atoms. Isomerization change the straight chain compound to fork compound, that has higher octane number.

Isobutane plant with capacity of 150,000 ton/year is planned to be built in Aceh. It needs raw material of n-butane as much as 161.860,5951 ton/year, hydrogen as much as 81,5122 ton/year, hydrogen chloride as much as 1.548,7307 ton/year, steam as much as 93,533.614 ton/year and electricity as much as 507,63KW.

Fixed capital is 527 billion rupiahs, while working capital is 241 billion rupiahs. The economic evaluation shows profit before tax is 151 billion rupiahs, and profit after tax is 75 billion rupiahs. Return on invesment before tax are 28.66 % and 14.33 % after tax. Pay out time before tax are 2.59 years and 4.11 years after tax. Discounted cash flow is 22.2 %. Break even point is 46.49 %, and shut down point is 20.54 %.

Based on the economic evaluation result, it is concluded that this factory is interesting and feasible to be built.

