

ABSTRACT

MANUFACTURING OF BIOKEROSENE AVIATION FROM RBD PALM OLEIN CAPACITY 35.000 TONS/YEAR (Design of Reactor (RE-201))

By

Finka Pertama Putri

Biokerosene Aviation plant is planned to be built in Dumai, Riau. Establishment of this plant is based on some consideration due to the raw material resources, the transportation, the labors availability and also the environmental condition.

This plant is meant to produce 35.000 tons/year Biokerosene Aviation with operation time 24 hour/day, 330 hour/year. Raw materials used consist of RBD Palm Olein 7.113,9599 Kg/hour and HZSM-5 used as catalyst.

The utility units consist of water supply system, heating oil supply system, instrument air supply system, cooling water supply system and waste treatment system.

The business entity form is Limited Liability Company (Ltd) using line and staff organizational structure with 158 labors.

From the economic analysis, it is obtained that:

<i>Fixed Capital Investment</i>	(FCI)	=	Rp. 242.363.404.113,-
<i>Working Capital Investment</i>	(WCI)	=	Rp. 42.770.012.491,-
<i>Total Capital Investment</i>	(TCI)	=	Rp. 285.133.416.604,-
<i>Break Even Point</i>	(BEP)	=	41,79 %
<i>Shut Down Point</i>	(SDP)	=	22,84 %
<i>PayOut Time before taxes</i>	(POT) _b	=	1,32 tahun
<i>PayOut Time after taxes</i>	(POT) _a	=	1,64 tahun
<i>Return on Investment before taxes</i>	(ROI) _b	=	65,74 %
<i>Return on Investment after taxes</i>	(ROI) _a	=	50,99 %
<i>Discounted cash flow</i>	(DCF)	=	17,87 %

Considering the summary above, it is proper to study the establishment of Biokerosene Aviation plant further, because the plant is profitable and has good prospects.

ABSTRAK

PRARANCANGAN PABRIK BIOKEROSENE AVIATION DARI RBD PALM OLEIN KAPASITAS 35.000 TON/TAHUN (Perancangan Reaktor (RE-201))

Oleh

Finka Pertama Putri

Pabrik *Biokerosene Aviation* direncanakan didirikan di Kota Dumai, Provinsi Riau. Pendirian pabrik berdasarkan atas pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan, dan kondisi lingkungan.

Pabrik direncanakan memproduksi *Biokerosene Aviation* sebanyak 35.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah *RBD Palm Olein* sebanyak 7.113,9599 Kg/jam dan menggunakan katalis HZSM-5.

Penyediaan kebutuhan utilitas pabrik terdiri dari unit pengadaan air, pengadaan *heating oil*, pengadaan udara *instrument*, pengadaan air pendingin, dan pengolahan limbah.

Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 158 orang.

Dari analisis ekonomi diperoleh:

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Mempertimbangkan paparan diatas, sudah selayaknya pendirian pabrik *Biokerosene Aviation* ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.