



CHAPTER-XI: FINANCIAL ANALYSIS

11.1 Introduction

Shri Vighnagar SSK Ltd, A/P:Nivruttinagar (Dhalewadi), Post-Shiroli Bk, Tal-Junnar, Dist-Pune, Maharashtra, is having existing distillery plant of 30 KLPD capacity. The sugar mill Management has decided to carry out the expansion of 30 KLPD distillery to 65 KLPD to produce fuel ethanol. The financial viability study is based on the detailed survey made regarding the availability of B-Heavy molasses, bagasse, water, power, manpower, Government policies and projected demand of fuel alcohol in India. The proposed project is to be established at Shri Vighnagar SSK Ltd, A/P: Nivruttinagar (Dhalewadi), Post-Shiroli Bk, Tal-Junnar, Dist-Pune, Maharashtra.

The financial viability of the proposed scheme of expansion for production of fuel ethanol has been made in the following paras.

11.2 Project cost:

The project cost estimates have been prepared on the assumptions that the plant & machinery as per standard specifications shall be purchased from the approved machinery suppliers in India, whereas the civil construction of various buildings and machinery foundation shall be carried out by the local contractors using locally available construction materials including brick, cement, steel, PPGL sheets etc.

On the basis of present market price and anticipated escalations up to the scheduled date of commissioning, the capital cost of the proposed scheme of expansion of 30 KLPD to 65 KLPD will be **Rs. 11157.05 lakh** approximately.

Sr. No.	Particulars	Amount (Rs. lakh)
1	Land & land development	30.00
2	Buildings and Civil Works with Machinery Foundation	1710.82
3	Plant and Machinery	8361.42
4	Miscellaneous Fixed Assets	332.17
5	Machinery Stores/Spares	20.00
6	Preliminary & Pre-operative and Other expenses	510.45
7	Contingencies @ 2%	167.19
8	Margin Money	25.00
	Total	11157.05

11.2.1 Land & land development

Sr. No.	Particulars	Amount (Rs. lakh)
1	Land development and internal roads, drains, compound wall & gate	30.00



	Total	30.00
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11.2.2 Particulars of Buildings, Civil Works & Machinery Foundation to be done:

Sr. No.	Particulars	Amount (Rs. Lakh)
A	COST OF PLANT STRUCTURAL WORK	
1	Main distillery structural work	139.10
2	Standalone alone multiple effect evaporation plant structural work	90.95
3	Structural work for utility piping	74.90
I	Sub-total (1+2+3)	304.95
II	Add: GST @ 18%	54.89
III	Total Cost of Buildings & Civil Works(I+II)	359.84
B	Cost of Civil & Machinery Foundation	
1	Civil for administrative office building	50.00
2	Civil for MCC, PCC, Electrical room building	30.00
3	Civil and foundation for fermentation house	85.00
4	Distillation plant & Machinery foundation	55.00
5	Standalone alone multiple effect evaporation plant foundation (520 M ³ /day)	55.00
6	Civil for Condensate polishing unit (650 M ³ /day)	230.00
7	Civil for Spent wash storage tank (7 days)	35.00
8	Civil work for Boiler, turbine & shed , power house (including fuel handling etc.)	185.00
9	Chimney	95.00
10	Civil foundation for fuel handling system	35.00
11	Civil foundation for Turbine	40.00
12	Boiler foundation	50.00
13	Civil for shed of coal storage yard (Bunke	25.00
14	Civil foundation for cooling tower basin (T G set)	20.00
15	Civil foundation for Ash handling system	25.00
16	Molasses storage tank foundation	30.00
17	PESO tank foundation	30.40
18	Footing for pipe rack, DG set	39.50
19	CO ₂ Plant foundation	30.00
I	Sub-total (1+2+3+4+...+19)	1144.90
II	Add: GST @ 18%	206.08
III	Total cost of Civil & Machinery Foundation with GST	1350.98
	Total cost of Plant Structural Works with Civil & Machinery Foundation (A-III+B-III)	1710.82

11.2.3 Details of Plant and Machinery:

Sr. No.	Particulars	Amount (Rs. Lakh)
1	35 KLPD Distillery Plant & Machinery for FA (RS, FA) Molasses ferm. & Multipressure & MSDH system	1904.00
2	Standalone raw spent wash evaporation (520M ³ /day feed)	511.50



3	Condensate Polishing unit (650 M ³ /day)	143.00
4	Boiler 25 MT/hr, 45 kg/ cm ² (g) with accessories, ESP, dump condenser	2608.50
5	TG set (2.0 MW) with accessories, 11KVA with steam piping	275.00
6	IBR Steam piping	252.00
7	EOT crane	27.50
8	Fuel handling system	138.75
9	Ash handling system	88.80
10	Distributed Control System (DCS)	88.00
11	Cooling tower for TG set	27.50
12	Dump condenser & Assembly	123.20
13	Air Compressors	21.20
14	Molasses Tank (10,000 MT, 01 Nos)	280.00
15	Electrical package (Transformer, MCC, PCC, LT, VFD, Cables, DG Set etc.)	
	a) PCC	132.00
	b) Cables	49.50
	c) DG set (500 KVA), 415 Volt	55.00
16	Fuel Ethanol storage tank farm as per PESO Norms	168.00
17	CO ₂ plant	192.50
	Basic cost of Plant & Machinery Distillery (1+2+3.....+17)	7085.50
	Add: GST @18%	1275.47
	Total cost of Plant & Machinery of Distillery with GST	8361.42

11.2.4 Miscellaneous fixed assets (MFA):

Sr. No.	Particulars	Amount (Rs. Lakh)
1	Laboratory Instrument, equipment & glassware	10.00
2	Fire Fighting equipment	70.00
3	Molasses piping with transfer pumps	15.00
4	Sugarcane juice diversion (cooling arrangement, piping, mass flow meter, etc)	136.50
5	Process and Non-Process water piping	20.00
6	DM/Softner & water treatment plant	30.00
	Basic Cost (1+2+3+...+6)	281.50
	Add: GST@18%	50.67
	Total MFA cost including GST	332.17

11.2.5 Machinery Stores/Spares:

Sr. No.	Particulars	Amount (Rs. Lakh)
1	Machinery Stores/Spares	20.00

11.2.6 Preliminary and pre-operative expenses:

Sr. No.	Particulars	Amount (Rs. Lakh)
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1	Interest during construction period on Term loan	349.76
2	Insurance during Construction	22.04
3	License fee	10.00
4	Startup expenses	10.00
5	D.P.R. & tender document charges	8.26
6	Inspection fee	62.64
7	Pre-operative Expenses	10.00
8	Bank Charges	22.75
9	Environment clearance expenses	15.00
	Total	510.45

11.2.7 Provision for contingencies:

Sr. No.	Particulars	Amount (Rs. lakh)
1	Provision for Contingencies @ 2% on Buildings, Civil Works and Plant and Machinery	167.19
	Total	167.19

11.2.8 Working capital requirement:

Sr. No.	Particulars	Amount (Rs. lakh)
1	Margin Money for Working Capital	25.00
	Total	25.00

11.3 Means of Finance

The proposed expansion from 30 to 65 KLPD distillery will produce fuel ethanol. The financing pattern of this proposal is 58:15 i.e. debt: equity ratio. Out of the total project cost of Rs. 11,157.05 lakh; 85% amount of Rs. 9483.50 lakh is to be financed by Financial Institutions/Banks as debt and remaining 15% amount of Rs.1673.56 lakh will be contributed by the mill as equity.

The financing pattern has been envisaged as under.

Sr. No.	Particulars	Percent	Amount (Rs. lakh)
1	EQUITY: Own Contribution	15.00	1673.56
2	DEBT: Bank/FIs	85.00	9483.50
	Total (1+2)	100.00	11157.06