

ANNEXURE 1 TO DIRECTORS' REPORT

AS PER RULE 2 OF COMPANIES (DISCLOSURE OF PARTICULARS IN THE REPORT OF THE BOARD OF DIRECTORS) RULES, 1988.

A. CONSERVATION OF ENERGY:

During the year under review, the Company has taken various energy conservation measures including

1. Installation of VFD Panel for Raw juice pump
2. Installation of Lighting transformer.
3. Installation of VFD Panel for Cane Carrier
4. Vapour line juice heater for raw juice heating
5. Direct contact juice heater for sulphited juice heating and clear juice heating.
6. Molasses conditioner for 'A' heavy, 'B' heavy and 'C' light Molasses
7. Condensate flash cigar for condensate flash recovery
8. Melter for 'B' and 'C' sugar
9. Radiator for sugar drier with filter
10. Condensing automation system.
11. VFD Drive for cane carrier and rake cane carrier
12. Bagasse belt conveyor in place of slat conveyor
13. Auto slip regulator for Fibrizor
14. Changing of centrifugal pump by screw pump for melter
15. Changing of imbibition water pump from split casing to KPD

The above measures have resulted in reduction in steam consumption and power consumption.

The total energy consumption and energy consumption per unit of production in given in Form A

Form A

Form for Disclosure of Particulars with respect to Conservation of Energy

A. Power and Fuel Consumption

	Units	Sugar Division	Distillery Division	Co-gen. Division
1. Electricity				
a. Purchased	KWH	32,26,360 (13,16,218)	64,165 (42,790)	3,588 (NIL)
Total amount	Rs. in million	28.31 (9.34)	0.58 (0.32)	0.03 (NIL)
Rate per unit (including demand charge)	Rs.	8.78 (7.10)	8.99 (7.38)	8.99 (NIL)

b. Own Generation i) Through Diesel Gensets Qty. Produced	KWH	1,03,967 (1,60,032)	NIL (NIL)	NIL (NIL)
Units per ltr of Diesel		2.58 (2.59)	NIL (NIL)	NIL (NIL)
Cost per unit	Rs.	12.00 (10.62)	NIL (NIL)	NIL (NIL)
ii) Through steam turbine(Co- generation) Qty. consumed	KWH	3,57,92,773 (18,074,747)	12,18,265 (1,966,889)	60,84,354 (234,512)
Units per MT of steam		137 (80)	123 (80)	147 (80)
Cost/unit	Rs.	Steam produced from own bagasse (Steam produced from own bagasse)		
2 Coal Quantity	MT	NIL (NIL)	NIL (NIL)	NIL (NIL)
Total Cost	Rs.in million	NIL (NIL)	NIL (NIL)	Nil (NIL)
Average rate	Rs.	NIL (NIL)	NIL (NIL)	Nil (NIL)
3 Furnace Oil Quantity	Ltrs	NIL (NIL)	NIL (NIL)	13000 (29000)
Total value	Rs in million	NIL (NIL)	NIL (NIL)	0.27 (0.28)
Average Rate	Rs.	NIL (NIL)	NIL (NIL)	20.40 (9.64)
4 Fire Wood Quantity	MT	NIL (NIL)	NIL (NIL)	18,825 (23,100)
Total value	Rs in million	NIL (NIL)	NIL (NIL)	23.09 (24.62)
Average Rate	Rs.	NIL (NIL)	NIL (NIL)	1226 (1066)
4.Others/internal generation Bagasse Quantity	MT	NIL (NIL)	NIL (NIL)	3,77,140 (191,789)
Total cost	Rs.in million	Own bagasse		
Rate/unit	Rs.	(Own bagasse)		

B CONSUMPTION PER UNIT OF PRODUCTION

Product	Per Quintal White Crystal Sugar	Per Litre Alcohol
Electricity (KWH)	26 (22.80)	0.19 (0.25)

B. TECHNOLOGY ABSORPTION:

FORM B

Form for disclosure of particulars with respect to absorption

Research and development

1. Specific areas in which R & D carried out by the Company.

- a. Improvement of the yeast strain *Schizosaccharomyces pombe* employed in the distillery fermentation process.
- b. Research on the effect of the inoculation of Plant Growth Promoting Rhizobacteria (PGPR) on the development of micro-propagated sugarcane plants.

2. Benefits derived as a result of the above R & D

- a. High temperature tolerant mutants of yeast strain *Schizosaccharomyces pombe* isolated.
- b. The results showed a clear physiological effect on the development of the inoculated plants resulting in enhanced dry matter accumulation and root growth.

3. Expenditure on R & D

(a) Capital	Nil
(b) Recurring	Rs.9,70,061/-
(c) Total	Rs.9,70,061/-
(d) Total R & D expenditure as a percentage Of total turnover.	0.04 %

Technology absorption, adaptation and innovation

1. Efforts in brief towards technology absorption, adaptation and innovation	2. Benefits derived as a result of the above efforts.
a. Use of meristem culture instead of apical buds for sugarcane micropropagation.	Plants derived from such cultures are healthy and showing high vigour.
b. Incorporation of vermicompost and biofertilizer in the hardening medium	Hardening efficiency of tissue culture seedlings has been increased from 80% to 90%

C. FOREIGN EXCHANGE EARNINGS AND OUTGO:

Total foreign exchange used and earned

foreign exchange earned : Rs. 6,44,48,634/-

foreign exchange outgo : Rs.19,14,35,133/-