

2.1 Form Template for Non-Fossil Fueled Based Cogeneration Power Projects

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity Auxiliary Consumption Plant Load Factor Life of Power Plant	MW % % Years	1 8.5% 60% 20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	445
3	Financial Assumptions	Debt: Equity	Debt Equity Total Debt Amount Total Equity Amount	% % Rs Lacs Rs Lacs	70% 30% 311.5 133.5
		Debt Component	Loan Amount Moratorium Period Repayment Period(incl. Moratorium) Interest Rate	Rs Lacs years years %	311.5 0 10 14.29%
		Equity Component	Equity amount Return on Equity for first 10 years RoE Period Return on Equity after 10 years Weighted average of ROE Discount Rate (equiv. to WACC)	Rs Lacs % p.a Year % %	133.5 19.00% 10.00 24.00% 21.50% 16.45%
4	Financial Assumptions	Depreciation	Depreciation Rate(power plant) Depreciation Rate 11th year onwards Years for 7% depreciation rate MAT Rate Corporate Tax Rate	% % % % %	7.00% 2.00% 10.00 16.995% 33.99%
5	Working Capital	For Fixed Charges O&M Charges Maintenance Spare Receivables for Debtors For Variable Charges Bagasse Stock Interest On Working Capital	(% of O&M exepenses)	Months % Months Months %	1 15% 2 4 13.79%
6	Fuel Related Assumptions	Heat Rate Bagasse	After Stabilisation period During Stabilization Period Base Price(FY09-10) GCV - Bagasse Bagasse Price Escalation Factor	Kcal/kwh Kcal/kwh Rs/T Kcal/kg %	3600 3600 1123 2250 5%
7	Allocation of Bagasse to Power and Steam	Power Steam	As a % of fuel cost As a % of fuel cost		100% 0%
8	Operation & Maintenance	power plant Total O & M Expenses Escalation		Rs Lakh %	13.35 5.72%
9	Generation and Sale Of Energy	No. of Days Total No. of Hours		Days Hrs	365 8760

2.2 Form Template for (Non fossil Fueled Based Cogeneration Power Projects- Maharashtra) : Determination of Tariff Component

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26
Auxiliary Consumption	MU		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Net Generation	MU		4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		94.44	99.16	104.12	109.33	114.79	120.53	126.56	132.89	139.53	146.51	153.83	161.52	169.60	178.09	186.98	196.33	206.15	216.46	227.28	238.64

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		13.35	14.11	14.92	15.77	16.68	17.63	18.64	19.71	20.83	22.02	23.28	24.62	26.02	27.51	29.09	30.75	32.51	34.37	36.33	38.41
Depreciation	Rs Lakh		31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15	31.15
Interest on term loan	Rs Lakh		42.29	37.84	33.38	28.93	24.48	20.03	15.58	11.13	6.68	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		9.74	10.01	10.30	10.62	10.95	11.30	11.68	12.08	12.51	12.98	13.13	13.75	14.40	15.08	15.80	16.55	17.35	18.18	19.05	19.97
Return on Equity	Rs Lakh		25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37	25.37
Total Fixed Cost	Rs Lakh		121.89	118.48	115.13	111.84	108.62	105.48	102.41	99.43	96.53	93.73	77.36	79.31	81.36	83.54	85.83	88.24	90.79	93.49	96.33	99.32

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/KWh		1.96	2.06	2.16	2.27	2.39	2.51	2.63	2.76	2.90	3.05	3.20	3.36	3.53	3.70	3.89	4.08	4.29	4.50	4.73	4.96
O&M expn	Rs/KWh		0.28	0.29	0.31	0.33	0.35	0.37	0.39	0.41	0.43	0.46	0.48	0.51	0.54	0.57	0.60	0.64	0.68	0.71	0.76	0.80
Depreciation	Rs/KWh		0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Int. on term loan	Rs/KWh		0.88	0.79	0.69	0.60	0.51	0.42	0.32	0.23	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/KWh		0.20	0.21	0.21	0.22	0.23	0.24	0.24	0.25	0.26	0.27	0.27	0.29	0.30	0.31	0.33	0.34	0.36	0.38	0.40	0.42
RoE	Rs/KWh		0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Total COG	Rs/KWh		4.50	4.53	4.56	4.60	4.65	4.70	4.76	4.83	4.91	5.00	4.81	5.01	5.22	5.44	5.67	5.92	6.17	6.44	6.73	7.03

Levelised Tariff	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.859	0.737	0.633	0.544	0.467	0.401	0.344	0.296	0.254	0.216	0.187	0.161	0.138	0.119	0.102	0.087	0.075	0.064	0.055
Variable Cost			124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Fixed Cost			106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4

Levelised Tariff Variable	2.59
Levelised Tariff Fixed	2.21
Levelised Tariff	4.80

Determination of Accelerated Depreciation for Non fossil Fueled Based Cogeneration Power Projects- Maharashtra

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Income Tax(MAT)	16.995%
Income Tax (Normal Rates)	33.99%
Capital Cost	445.0

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Book Depreciation	%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	0.24%	0.00%	0.00%
Book Depreciation	Rs Lakh	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	1.07	0.00	0.00

Accelerated Depreciation																							
Opening	%	100%	60%	12%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	40%	48.00%	9.60%	1.92%	0.38%	0.08%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	60%	12%	2.40%	0.48%	0.10%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	178.00	213.60	42.72	8.54	1.71	0.34	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	154.50	190.10	19.22	-14.95	-21.79	-23.15	-23.43	-23.48	-23.49	-23.50	-23.50	-23.50	-23.50	-23.50	-23.50	-23.50	-23.50	-23.50	-1.07	0.00	0.00	
Tax Benefit	Rs Lakh	26.26	32.31	3.27	-2.54	-3.70	-3.94	-3.98	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-3.99	-0.36	0.00	0.00
Energy generation	MU	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
Per unit benefit	Rs/Unit	0.55	0.67	0.07	-0.05	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.01	0.00	0.00
Discounting Factor		1.00	0.86	0.74	0.63	0.54	0.47	0.40	0.34	0.30	0.25	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08	0.06	0.06	0.06

Levelised benefit 0.12 Rs/Unit