

CERC RE Tariff Order FY 2020-21

Assumption for Biomass Based Rankine Cycle Project Parameters					State	Haryana
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
	Depreciation Rate 16th years onwards	%	2.00%			
	4	O&M Expenses	Normative O&M expense	Rs. Lakh/MW	46.42	
O&M expenses p.a			Rs. Lakh	46.42		
Escalation factor			%	3.84%		
5	Working Capital		O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables		Days	1.5
			Interest on Working Capital		% per annum	11.17%
6	Fuel Related Assumptions	Biomass	Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3786.00	
			GCV Biomass	kcal/kg	3100.00	
			Biomass price escalation factor	%	5.00%	
7	Generation and Sale of Power	Number of Hours		Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.4C	
				State	Maharashtra	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3872.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.4D	
				State	Punjab	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3960.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					State	Rajasthan
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3305.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.4F	
				State	Tamil Nadu	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3272.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					State	Telangana
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3326.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.4H	
				State	Uttar Pradesh	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3384.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.4I	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	652.00	
			Capital Cost	Rs. Lakh	652.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	652.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	456.40	
			Total Equity Amount	Rs. Lakh	195.60	
			Loan Amount	Rs. Lakh	456.40	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	195.60	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4200.00	
			Fuel Price	Rs./T	3557.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5A	
				State	Andhra Pradesh	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3326.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5B	
				State	Haryana	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3786.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5C	
				State	Maharashtra	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
	Depreciation Rate 16th years onwards	%	2.00%			
	4	O&M Expenses	Normative O&M expense	Rs. Lakh/MW	46.42	
O&M expenses p.a			Rs. Lakh	46.42		
Escalation factor			%	3.84%		
5	Working Capital		O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables		Days	1.5
			Interest on Working Capital		% per annum	11.17%
6	Fuel Related Assumptions	Biomass	Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3872.00	
			GCV Biomass	kcal/kg	3100.00	
			Biomass price escalation factor	%	5.00%	
7	Generation and Sale of Power	Number of Hours		Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5D	
				State	Punjab	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3960.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5E
				State	Rajasthan
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Aux Consumption	%	10.00%
			Plant Load Factor	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00
			Capital Cost	Rs. Lakh	559.00
			Capital Subsidy	Rs. Lakh	0
			Net Capital Cost	Rs. Lakh	559.00
3	Financial Assumption	Debt Equity	Tariff Period	Years	25
			Debt	%	70%
			Equity	%	30%
		Debt Component	Total Debt Amount	Rs. Lakh	391.30
			Total Equity Amount	Rs. Lakh	167.70
			Loan Amount	Rs. Lakh	391.30
			Moratorium Period	Years	0
			Repayment Period (including Moratorium)	Years	15
		Equity Component	Interest Rate	%	9.67%
			Equity Amount	Rs. Lakh	167.70
			Return on Equity for First 20 years	% p.a	16.96%
			Return on Equity after 20 years	% p.a	21.52%
		Tax Rate	Discount Rate	%	8.61%
			Corporate Tax Rate	%	34.94%
Depreciation	MAT Rate	%	17.47%		
	Depreciation Rate for 1st 15 years	%	4.67%		
	Depreciation Rate 16th years onwards	%	2.00%		
	4	O&M Expenses	Normative O&M expense	Rs. Lakh/MW	46.42
O&M expenses p.a			Rs. Lakh	46.42	
Escalation factor			%	3.84%	
5	Working Capital	O&M expenses p.a		Month	1
		Maintenance Spares	% of O&M exepenses	%	15.00%
		Receivables		Days	1.5
		Interest on Working Capital		% per annum	11.17%
6	Fuel Related Assumptions	Biomass	Heat Rate	Kcal/kWh	4125.00
			Fuel Price	Rs./T	3305.00
			GCV Biomass	kcal/kg	3100.00
			Biomass price escalation factor	%	5.00%
7	Generation and Sale of Power	Number of Hours		Hours	8766.00

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5F	
				State	Tamil Nadu	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3272.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5G
				State	Telangana
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Aux Consumption	%	10.00%
			Plant Load Factor	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00
			Capital Cost	Rs. Lakh	559.00
			Capital Subsidy	Rs. Lakh	0
			Net Capital Cost	Rs. Lakh	559.00
3	Financial Assumption	Debt Equity	Tariff Period	Years	25
			Debt	%	70%
			Equity	%	30%
		Debt Component	Total Debt Amount	Rs. Lakh	391.30
			Total Equity Amount	Rs. Lakh	167.70
			Loan Amount	Rs. Lakh	391.30
			Moratorium Period	Years	0
			Repayment Period (including Moratorium)	Years	15
		Equity Component	Interest Rate	%	9.67%
			Equity Amount	Rs. Lakh	167.70
			Return on Equity for First 20 years	% p.a	16.96%
			Return on Equity after 20 years	% p.a	21.52%
		Tax Rate	Discount Rate	%	8.61%
			Corporate Tax Rate	%	34.94%
Depreciation	MAT Rate	%	17.47%		
	Depreciation Rate for 1st 15 years	%	4.67%		
	Depreciation Rate 16th years onwards	%	2.00%		
	4	O&M Expenses	Normative O&M expense	Rs. Lakh/MW	46.42
O&M expenses p.a			Rs. Lakh	46.42	
Escalation factor			%	3.84%	
5	Working Capital	O&M expenses p.a	Month	1	
		Maintenance Spares	% of O&M exepenses	%	15.00%
		Receivables	Days	1.5	
		Interest on Working Capital	% per annum	11.17%	
6	Fuel Related Assumptions	Biomass	Heat Rate	Kcal/kWh	4125.00
			Fuel Price	Rs./T	3326.00
			GCV Biomass	kcal/kg	3100.00
			Biomass price escalation factor	%	5.00%
7	Generation and Sale of Power	Number of Hours		Hours	8766.00

Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5H	
				State	Uttar Pradesh	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3384.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.5I	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	10.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	559.00	
			Capital Cost	Rs. Lakh	559.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	559.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	391.30	
			Total Equity Amount	Rs. Lakh	167.70	
			Loan Amount	Rs. Lakh	391.30	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	167.70	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3557.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6A	
				State	Andhra Pradesh	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3326.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6B	
				State	Haryana	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3786.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					State	Annexure 2.6C
					State	Maharashtra
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	15.00%	
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3872.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6D	
				State	Punjab	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3960.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Determination of Tariff Components		Biomass (Rankine Cycle) Based Power Project																									
Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		369.53	388.01	407.41	427.78	449.17	471.62	495.20	519.96	545.96	573.26	601.92	632.02	663.62	696.80	731.64	768.22	806.64	846.97	889.32	933.78	980.47	1029.49	1080.97	1135.02	1191.77
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		46.42	48.20	50.05	51.97	53.97	56.04	58.19	60.42	62.74	65.14	67.64	70.24	72.93	75.73	78.64	81.66	84.79	88.04	91.42	94.93	98.57	102.35	106.28	110.36	114.59
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		39.28	36.57	33.86	31.15	28.44	25.73	23.03	20.32	17.61	14.90	12.19	9.48	6.77	4.06	1.35	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		22.46	23.46	24.50	25.60	26.75	27.97	29.24	30.58	31.99	33.46	35.01	36.64	38.36	40.16	42.05	43.82	45.94	48.17	50.51	52.96	55.65	58.35	61.18	64.16	67.28
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		166.70	166.76	166.95	167.26	167.70	168.27	168.99	169.85	170.86	172.04	173.38	174.90	176.60	178.49	180.57	182.81	185.21	187.77	190.49	193.37	196.41	199.61	202.97	206.50	210.20

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	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh		9.33	5.99	6.29	6.60	6.93	7.28	7.64	8.02	8.43	8.85	9.29	9.75	10.24	10.75	11.29	11.86	12.45	13.07	13.72	14.41	15.13	15.89	16.68	17.52	18.39	19.31
O&M expn	Rs/kWh		1.05	0.75	0.78	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86
Depreciation	Rs/kWh		0.41	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	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs/kWh		0.32	0.64	0.59	0.55	0.50	0.45	0.42	0.37	0.33	0.29	0.24	0.20	0.15	0.11	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Int. on working capital	Rs/kWh		0.54	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.76	0.82	0.86	0.90	0.95	0.99	1.04	1.09
ROE	Rs/kWh		0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	
Total COG	Rs/kWh		12.16	8.69	8.99	9.31	9.64	10.00	10.37	10.76	11.18	11.62	12.08	12.56	13.08	13.62	14.18	14.78	15.37	15.88	16.62	17.40	18.22	19.21	20.11	21.05	22.04	23.08

Variable Cost for FY 2020-21	5.99	Rs/kWh
Levelised Tariff (Fixed)	2.82	Rs/kWh
Levelised Tariff -FY 2020-21	8.81	Rs/kWh

Determination of AD for Biomass based Power Project	
Depreciation amount	90.00%
Book Depreciation rate	5.28%
Tax Depreciation rate	40.00%
Additional Depreciation	20.00%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost (Rs./Lakh)	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	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%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30%	35%	14%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closing	%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Accelerated Depreciation	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.78	0.72	0.66	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.14
Applicable Discounting Factor		1.00	0.96	0.88	0.81	0.75	0.69	0.64	0.58	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.18	0.17	0.16	0.14

Tax Benefit Levelised	7.51	Rs/kWh
Electricity Generation (Levelised)	5.90	Rs/kWh
Levelised benefit	0.13	Rs/kWh

Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6E	
				State	Rajasthan	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3305.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

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Determination of Tariff Components		Biomass (Rankine Cycle) Based Power Project																									
Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		308.41	323.83	340.02	357.02	374.87	393.62	413.30	433.96	455.66	478.44	502.36	527.48	553.86	581.55	610.63	641.16	673.22	706.88	742.22	779.33	818.30	859.21	902.17	947.28	994.65
Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		46.42	48.20	50.05	51.97	53.97	56.04	58.19	60.42	62.74	65.14	67.64	70.24	72.93	75.73	78.64	81.66	84.79	88.04	91.42	94.93	98.57	102.35	106.28	110.36	114.59
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		39.28	36.57	33.86	31.15	28.44	25.73	23.03	20.32	17.61	14.90	12.19	9.48	6.77	4.06	1.35	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		19.29	20.13	21.00	21.93	22.90	23.91	24.99	26.11	27.29	28.54	29.84	31.21	32.66	34.17	35.76	37.22	39.01	40.89	42.87	44.94	47.23	49.50	51.90	54.40	57.04
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		163.52	163.43	163.45	163.58	163.84	164.22	164.73	165.38	166.17	167.12	168.21	169.47	170.90	172.50	174.29	161.41	166.34	171.47	176.82	182.40	196.53	202.59	208.91	215.50	222.36
Levelised tariff corresponding to Useful life		Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per Unit Variable Cost	Rs/kWh	7.79	5.00	5.25	5.51	5.79	6.07	6.38	6.70	7.03	7.38	7.75	8.14	8.55	8.97	9.42	9.89	10.39	10.91	11.45	12.03	12.63	13.26	13.92	14.62	15.35	16.12
O&M expn	Rs/kWh	1.05	0.75	0.78	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86
Depreciation	Rs/kWh	0.41	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	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.32	0.64	0.59	0.55	0.50	0.46	0.42	0.37	0.33	0.29	0.24	0.20	0.15	0.11	0.07	0.02	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	0.46	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.73	0.77	0.80	0.84	0.88	0.92
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	10.53	7.65	7.90	8.16	8.44	8.73	9.04	9.37	9.71	10.06	10.46	10.87	11.29	11.74	12.22	12.72	13.00	13.60	14.23	14.89	15.58	16.44	17.21	18.00	18.84	19.72
Variable Cost for FY 2020-21		5.00																									
Levelised Tariff (Fixed)		2.74																									
Levelised Tariff -FY 2020-21	Rs/kWh	7.74																									
Determination of AD for Biomass based Power Project																											
Depreciation amount		90.00%																									
Book Depreciation rate		5.28%																									
Tax Depreciation rate		40.00%																									
Additional Depreciation		20.00%																									
Income Tax (MAT)		17.47%																									
Income Tax (Normal Rates)		34.94%																									
Capital Cost (Rs./Lakh)		600.00																									
Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	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%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	
Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Allowed during the year	%	30%	35%	14%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Closing	%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Accelerated Depreciation	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-31.64	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-11.06	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.92	0.85	0.78	0.72	0.66	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.14	
Applicable Discounting Factor		1.00	0.96	0.88	0.81	0.75	0.69	0.64	0.58	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.18	0.16	0.14	0.14	
Tax Benefit Levelised		7.51																									
Electricity Generation (Levelised)		5.90																									
Levelised benefit	Rs/kWh	0.13																									

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6F	
				State	Tamil Nadu	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
	Depreciation Rate 16th years onwards	%	2.00%			
	4	O&M Expenses	Normative O&M expense	Rs. Lakh/MW	46.42	
O&M expenses p.a			Rs. Lakh	46.42		
Escalation factor			%	3.84%		
5	Working Capital		O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables		Days	1.5
			Interest on Working Capital		% per annum	11.17%
6	Fuel Related Assumptions	Biomass	Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3272.00	
			GCV Biomass	kcal/kg	3100.00	
			Biomass price escalation factor	%	5.00%	
7	Generation and Sale of Power	Number of Hours		Hours	8766.00	

CERC RE Tariff Order FY 2020-21

Determination of Tariff Components		Biomass (Rankine Cycle) Based Power Project																										
Units Generation		Unit	Year-->																									
Installed Capacity		MW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Net Generation		MU	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost		Unit	Year-->																									
Biomass Cost		Rs. Lakh	305.33	320.59	336.62	353.46	371.13	389.68	409.17	429.63	451.11	473.66	497.35	522.21	548.33	575.74	604.53	634.76	666.49	699.82	734.81	771.55	810.13	850.63	893.16	937.82	984.71	
Fixed Cost		Unit	Year-->																									
O&M Expenses		Rs Lakh	46.42	48.20	50.05	51.97	53.97	56.04	58.19	60.42	62.74	65.14	67.64	70.24	72.93	75.73	78.64	81.66	84.79	88.04	91.42	94.93	98.57	102.35	106.28	110.36	114.59	
Depreciation		Rs Lakh	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	
Interest on term loan		Rs Lakh	39.28	36.57	33.86	31.15	28.44	25.73	23.03	20.32	17.61	14.90	12.19	9.48	6.77	4.06	1.35	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	19.13	19.96	20.83	21.74	22.70	23.71	24.77	25.89	27.06	28.29	29.58	30.94	32.37	33.87	35.44	36.89	38.67	40.53	42.48	44.53	46.80	49.06	51.43	53.91	56.52	
Return on Equity		Rs Lakh	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	
Total Fixed Cost		Rs Lakh	163.36	163.26	163.27	163.40	163.64	164.02	164.52	165.16	165.94	166.87	167.95	169.20	170.61	172.20	173.97	161.08	165.99	171.11	176.44	182.00	196.11	202.15	208.44	215.01	221.85	

Levelised tariff corresponding to Useful life		Unit	Year-->																									
Per Unit Variable Cost		Rs/kWh	7.71	4.95	5.19	5.45	5.73	6.01	6.31	6.63	6.96	7.31	7.68	8.06	8.46	8.89	9.33	9.80	10.29	10.80	11.34	11.91	12.50	13.13	13.78	14.47	15.20	15.96
O&M expn		Rs/kWh	1.05	0.75	0.78	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86
Depreciation		Rs/kWh	0.41	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	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan		Rs/kWh	0.32	0.64	0.69	0.55	0.50	0.46	0.42	0.37	0.33	0.29	0.24	0.20	0.15	0.11	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Int. on working capital		Rs/kWh	0.46	0.31	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83	0.87	0.92
RoE		Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	
Total COG		Rs/kWh	10.45	7.59	7.84	8.10	8.38	8.67	8.97	9.30	9.64	10.00	10.38	10.78	11.20	11.65	12.12	12.61	12.90	13.49	14.11	14.77	15.45	16.31	17.06	17.85	18.68	19.55

Variable Cost for FY 2020-21	4.95	Rs/kWh
Levelised Tariff (Fixed)	2.74	Rs/kWh
Levelised Tariff -FY 2020-21	7.69	Rs/kWh

Determination of AD for Biomass based Power Project	
Depreciation amount	90.00%
Book Depreciation rate	5.28%
Tax Depreciation rate	40.00%
Additional Depreciation	20.00%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost (Rs./Lakh)	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	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%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30%	35%	14%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closing	%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Accelerated Depreciation	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor	1.00	0.92	0.85	0.78	0.72	0.66	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.14	
Applicable Discounting Factor	1.00	0.96	0.88	0.81	0.75	0.69	0.64	0.58	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.18	0.16	0.14	0.14	

Tax Benefit Levelised	7.51	Rs/kWh
Electricity Generation (Levelised)	5.90	Rs/kWh
Levelised benefit	0.13	Rs/kWh

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Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6G	
				State	Telangana	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3326.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

CERC RE Tariff Order FY 2020-21

Determination of Tariff Components		Biomass (Rankine Cycle) Based Power Project																									
Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		310.37	325.89	342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1000.97
Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		46.42	48.20	50.05	51.97	53.97	56.04	58.19	60.42	62.74	65.14	67.64	70.24	72.93	75.73	78.64	81.66	84.79	88.04	91.42	94.93	98.57	102.35	106.28	110.36	114.59
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		39.28	36.57	33.86	31.15	28.44	25.73	23.03	20.32	17.61	14.90	12.19	9.48	6.77	4.06	1.35	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		19.39	20.23	21.12	22.04	23.02	24.04	25.12	26.25	27.44	28.70	30.01	31.39	32.84	34.36	35.96	37.63	39.24	41.13	43.11	45.20	47.50	49.79	52.19	54.72	57.36
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		163.63	163.54	163.56	163.70	163.96	164.35	164.87	165.53	166.32	167.27	168.38	169.64	171.08	172.69	174.49	161.62	166.56	171.71	177.07	182.66	196.80	202.88	209.21	215.81	222.69

Levilled tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	7.84	5.03	5.28	5.54	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48	9.96	10.46	10.98	11.53	12.10	12.71	13.34	14.01	14.71	15.45	16.22
O&M expn	Rs/kWh	1.05	0.75	0.78	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86
Depreciation	Rs/kWh	0.41	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	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs/kWh	0.32	0.64	0.59	0.55	0.50	0.46	0.42	0.37	0.33	0.29	0.24	0.20	0.15	0.11	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Int. on working capital	Rs/kWh	0.47	0.31	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.44	0.46	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.73	0.77	0.81	0.85	0.89	
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	
Total COG	Rs/kWh	10.58	7.68	7.93	8.20	8.47	8.77	9.08	9.41	9.76	10.13	10.51	10.92	11.35	11.80	12.28	12.78	13.07	13.68	14.31	14.97	15.67	16.53	17.30	18.10	18.94	19.83

Variable Cost for FY 2020-21	5.03	Rs/kWh
Levilled Tariff (Fixed)	2.75	Rs/kWh
Levilled Tariff -FY 2020-21	7.78	Rs/kWh

Determination of AD for Biomass based Power Project	
Depreciation amount	90.00%
Book Depreciation rate	5.28%
Tax Depreciation rate	40.00%
Additional Depreciation	20.00%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost (Rs./Lakh)	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	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%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30%	35%	14%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closing	%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Accelerated Depreciation	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.78	0.72	0.66	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.14
Applicable Discounting Factor		1.00	0.96	0.88	0.81	0.75	0.69	0.64	0.58	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.18	0.17	0.16	0.14

Tax Benefit Levilled	7.51	Rs/kWh
Electricity Generation (Levilled)	5.90	Rs/kWh
Levilled benefit	0.13	Rs/kWh

CERC RE Tariff Order FY 2020-21

Assumption for Biomass Based Rankine Cycle Project Parameters					Annexure 2.6H	
				State	Uttar Pradesh	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameter	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Aux Consumption	%	12.00%	
			Plant Load Factor	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Lakh/MW	600.00	
			Capital Cost	Rs. Lakh	600.00	
			Capital Subsidy	Rs. Lakh	0	
			Net Capital Cost	Rs. Lakh	600.00	
3	Financial Assumption	Debt Equity	Tariff Period	Years	25	
			Debt	%	70%	
			Equity	%	30%	
		Debt Component	Total Debt Amount	Rs. Lakh	420.00	
			Total Equity Amount	Rs. Lakh	180.00	
			Loan Amount	Rs. Lakh	420.00	
			Moratorium Period	Years	0	
			Repayment Period (including Moratorium)	Years	15	
		Equity Component	Interest Rate	%	9.67%	
			Equity Amount	Rs. Lakh	180.00	
			Return on Equity for First 20 years	% p.a	16.96%	
			Return on Equity after 20 years	% p.a	21.52%	
		Tax Rate	Discount Rate	%	8.61%	
			Corporate Tax Rate	%	34.94%	
Depreciation	MAT Rate	%	17.47%			
	Depreciation Rate for 1st 15 years	%	4.67%			
4	O&M Expenses		Depreciation Rate 16th years onwards	%	2.00%	
			Normative O&M expense	Rs. Lakh/MW	46.42	
			O&M expenses p.a	Rs. Lakh	46.42	
5	Working Capital		Escalation factor	%	3.84%	
			O&M expenses p.a	Month	1	
			Maintenance Spares	% of O&M exepenses	%	15.00%
			Receivables	Days	1.5	
6	Fuel Related Assumptions	Biomass	Interest on Working Capital	% per annum	11.17%	
			Heat Rate	Kcal/kWh	4125.00	
			Fuel Price	Rs./T	3384.00	
			GCV Biomass	kcal/kg	3100.00	
7	Generation and Sale of Power	Number of Hours	Biomass price escalation factor	%	5.00%	
				Hours	8766.00	

