HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)

Biomass generic tariff (Air Cooled - Travelling Grate Boiler) Single Fuel (Paddy)

Table of Parameters					
Capital cost (Rs. in Million / MW)	65.20				
Residual value (10%)	6.52				
Total depreciation (Rs in Million / MW)	58.68				
Loan component (Rs in Million / MW)	45.64				
Equity component (Rs in Million / MW)	19.56				
CUF (stablisation)	60%	six months			
CUF 1st year (Including Stabilisation)	65%				
CUF 2nd year onwards	80%				
O&M (Rs Million / MW)	4.47		4.00	4.2288	4.470687
O&M escalation	5.72%				
Depreication (first 13 years)	5.38%				
ROE (1st 10 years)	14%				
ROE (11th year onwards)	14%				
Income tax (MAT) **pass through**	0.00%				
Income tax (Corporate Tax) **pass through**	0.00%				
Interest on term loan	10.13%	MCLR +2%			
Interest on working capital	9.13%	MCLR + 1%			
Auxiliary consumption (1st year)	12.50%	13% for six months & 12% thereafter CERC			
Auxiliary consumption (2nd year onwards)	12%				
Fuel cost (Rs. / MT)	3605.61				
Fuel price escalation	5%				
Heat rate (Kcal/kWh)	4200	CERC Travelling Grate Boiler			
GCV (Kcal/kg)	3100				
Discount rate WACC	11.29%				
Levellised tariff	10.83				

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost with escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		45.64	42.13	38.62	35.11	31.60	28.09	24.58	21.06	17.55	14.04	10.53	7.02	3.51							
Loan repayment		3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51							
Interest on loan		4.45	4.09	3.73	3.38	3.02	2.67	2.31	1.96	1.60	1.24	0.89	0.53	0.18							
Working Capital																					
Fuel cost for six (6) months		13.37	17.97	18.87	19.82	20.81	21.85	22.94	24.09	25.29	26.55	27.88	29.28	30.74	32.28	33.89	35.59	37.36	39.23	41.19	43.25
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.32	8.93	9.23	9.56	9.90	10.26	10.65	11.05	11.48	11.94	12.42	12.93	13.47	13.80	14.46	15.15	15.89	16.65	17.46	18.31
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		21.73	28.00	29.27	30.60	32.01	33.49	35.04	36.68	38.40	40.22	42.13	44.13	46.25	48.22	50.62	53.14	55.79	58.57	61.50	64.57
Interest on working capital		1.98	2.56	2.67	2.79	2.92	3.06	3.20	3.35	3.51	3.67	3.85	4.03	4.22	4.40	4.62	4.85	5.09	5.35	5.61	5.90
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.48	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		12.50%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Generation (Ex-bus Mllion Units)	A1	4.79	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
Station Heat Rate (Kcal/kWh)	B	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	22995	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434
Fuel Consumption (MT)	E=(D*1000/C)	7418	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495
Cost of fuel per MT`	F	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	G=E*F/10^6	26.75	35.95	37.74	39.63	41.61	43.69	45.88	48.17	50.58	53.11	55.76	58.55	61.48	64.55	67.78	71.17	74.73	78.47	82.39	86.51
Fuel Cost (Rs/kWh)	H=G/A1	5.58	5.83	6.12	6.43	6.75	7.08	7.44	7.81	8.20	8.61	9.04	9.49	9.97	10.47	10.99	11.54	12.12	12.72	13.36	14.03
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	1.87	1.87	1.87	1.87	1.87	1.87	1.87
Interest on Term Loan		4.45	4.09	3.73	3.38	3.02	2.67	2.31	1.96	1.60	1.24	0.89	0.53	0.18							
Interest on Working Capital		1.98	2.56	2.67	2.79	2.92	3.06	3.20	3.35	3.51	3.67	3.85	4.03	4.22	4.40	4.62	4.85	5.09	5.35	5.61	5.90
Return on Equity		2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		17.15	17.62	17.65	17.70	17.78	17.87	18.00	18.15	18.33	18.54	18.78	19.05	19.36	18.22	18.97	19.76	20.59	21.46	22.39	23.37
Fixed cost (Rs/kWh)		3.58	2.86	2.86	2.87	2.88	2.90	2.92	2.94	2.97	3.01	3.04	3.09	3.14	2.95	3.08	3.20	3.34	3.48	3.63	3.79
Total cost (Fixed+variable)		43.89	53.57	55.39	57.33	59.39	61.57	63.88	66.32	68.91	71.65	74.54	77.60	80.84	82.78	86.75	90.93	95.32	99.93	104.78	109.87
Tariff (Rs/kWh)		9.16	8.69	8.98	9.30	9.63	9.98	10.36	10.75	11.17	11.62	12.09	12.58	13.11	13.42	14.07	14.74	15.46	16.20	16.99	17.82
Per unit tariff components																					
Per unit O&M Expenses		0.93	0.77	0.81	0.86	0.91	0.96	1.01	1.07	1.13	1.20	1.26	1.34	1.41	1.49	1.58	1.67	1.77	1.87	1.97	2.09
Per Unit Depreciation		0.73	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Per Unit Interest on term loan		0.93	0.66	0.61	0.55	0.49	0.43	0.37	0.32	0.26	0.20	0.14	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.41	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.60	0.62	0.65	0.68	0.71	0.75	0.79	0.83	0.87	0.91	0.96
Per Unit Return on equity		0.57	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.77	5.58	5.24	4.94	4.66	4.40	4.15	3.92	3.69	3.49	3.29	3.10	2.93	2.76	2.61	2.46	2.32	2.19	2.06	1.95	1.84
Discounted tariff components(fixed)	3.06	3.58	2.57	2.31	2.08	1.88	1.70	1.54	1.39	1.26	1.15	1.04	0.95	0.87	0.74	0.69	0.64	0.60	0.56	0.53	0.50
Discounted tariff components (Total)		9.16	7.80	7.25	6.74	6.28	5.85	5.45	5.09	4.75	4.44	4.15	3.88	3.63	3.34	3.15	2.96	2.79	2.63	2.48	2.33
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.83																				

HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)
Biomass generic tariff (Air Cooled - AFBC Boiler)

Table of Parameters					
Capital cost (Rs. in Million / MW)	60.000				
Residual value (10%)	6.00				
Total depreciation (Rs in Million / MW)	54.00				
Loan component (Rs in Million / MW)	42.00				
Equity component (Rs in Million / MW)	18.00				
CUF (stablisation)	65%				
CUF 1st year (Including Stabilisation)	65%				
CUF 2nd year onwards	80%				
O&M (Rs Million / MW)	4.47		4.00	4.2288	4.470687
O&M escalation	5.72%				
Depreication (first 13 years)	5.38%				
ROE (1st 10 years)	14%				
ROE (11th year onwards)	14%				
Income tax (MAT) **pass through**	0.00%				
Income tax (Corporate Tax) **pass through**	0.00%				
Interest on term loan	10.13%		MCLR +2%		
Interest on working capital	9.13%		MCLR + 1%		
Auxiliary consumption (1st year)	12%				
Auxiliary consumption (2nd year onwards)	12%				
Fuel cost (Rs. / MT)	3605.175		3270	3433.5	3605.175
Fuel price escalation	5%				
Heat rate (Kcal/kWh)	4063	AFBC Boiler			
GCV (Kcal/kg)	3100				
Discount rate WACC	11.29%				
Levellised tariff	10.31				

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3605	3785	3975	4173	4382	4601	4831	5073	5326	5593	5872	6166	6474	6798	7138	7495	7870	8263	8676	9110
O&M with Escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		42.00	38.77	35.54	32.31	29.08	25.85	22.62	19.38	16.15	12.92	9.69	6.46	3.23							
Loan repayment		3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23							
Interest on loan		4.09	3.76	3.44	3.11	2.78	2.45	2.13	1.80	1.47	1.15	0.82	0.49	0.16							
Working Capital																					
Fuel cost for four months		8.97	11.59	12.17	12.78	13.42	14.09	14.79	15.53	16.31	17.12	17.98	18.88	19.82	20.81	21.85	22.95	24.09	25.30	26.56	27.89
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.13	8.49	8.78	9.10	9.43	9.78	10.15	10.54	10.96	11.40	11.87	12.36	12.88	13.20	13.83	14.50	15.20	15.94	16.72	17.53
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		17.14	21.18	22.12	23.11	24.15	25.24	26.40	27.61	28.90	30.24	31.66	33.16	34.73	36.16	37.96	39.85	41.84	43.93	46.12	48.43
Interest on working capital		1.57	1.93	2.02	2.11	2.20	2.30	2.41	2.52	2.64	2.76	2.89	3.03	3.17	3.30	3.47	3.64	3.82	4.01	4.21	4.42
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Generation (Ex-bus Mllion Units)	A1	5.01	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
Station Heat Rate (Kcal/kWh)	B	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	23135	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474	28474
Fuel Consumption (MT)	E=(D*1000/C)	7463	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185	9185
Cost of fuel per MT`	F	3605	3785	3975	4173	4382	4601	4831	5073	5326	5593	5872	6166	6474	6798	7138	7495	7870	8263	8676	9110
Total Cost of fuel (Rs Million)	G=E*F/10^6	26.90	34.77	36.51	38.33	40.25	42.26	44.38	46.59	48.92	51.37	53.94	56.64	59.47	62.44	65.56	68.84	72.28	75.90	79.69	83.68
Fuel Cost (Rs/kWh)	H=G/A1	5.37	5.64	5.92	6.22	6.53	6.85	7.20	7.56	7.93	8.33	8.75	9.18	9.64	10.12	10.63	11.16	11.72	12.31	12.92	13.57
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Interest on Term Loan		4.09	3.76	3.44	3.11	2.78	2.45	2.13	1.80	1.47	1.15	0.82	0.49	0.16							
Interest on Working Capital		1.57	1.93	2.02	2.11	2.20	2.30	2.41	2.52	2.64	2.76	2.89	3.03	3.17	3.30	3.47	3.64	3.82	4.01	4.21	4.42
Return on Equity		2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		15.87	16.17	16.20	16.25	16.32	16.41	16.53	16.67	16.84	17.03	17.25	17.51	17.80	16.75	17.45	18.18	18.95	19.76	20.62	21.52
Fixed cost (Rs/kWh)		3.17	2.62	2.63	2.63	2.65	2.66	2.68	2.70	2.73	2.76	2.80	2.84	2.89	2.72	2.83	2.95	3.07	3.20	3.34	3.49
Total cost (Fixed+variable)		42.78	50.94	52.71	54.58	56.57	58.67	60.90	63.26	65.76	68.40	71.19	74.15	77.26	79.19	83.01	87.02	91.23	95.66	100.31	105.20
Tariff (Rs/kWh)		8.54	8.26	8.55	8.85	9.17	9.51	9.88	10.26	10.66	11.09	11.54	12.02	12.53	12.84	13.46	14.11	14.79	15.51	16.27	17.06
Per unit tariff components																					
Per unit O&M Expenses		0.89	0.77	0.81	0.86	0.91	0.96	1.01	1.07	1.13	1.20	1.26	1.34	1.41	1.49	1.58	1.67	1.77	1.87	1.97	2.09
Per Unit Depreciation		0.64	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Per Unit Interest on term loan		0.82	0.61	0.56	0.50	0.45	0.40	0.34	0.29	0.24	0.19	0.13	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.31	0.31	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.65	0.68	0.72
Per Unit Return on equity		0.50	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.51	5.37	5.07	4.78	4.51	4.25	4.01	3.79	3.57	3.37	3.18	3.00	2.83	2.67	2.52	2.38	2.24	2.12	2.00	1.88	1.78
Discounted tariff components(fixed)	2.79	3.17	2.36	2.12	1.91	1.73	1.56	1.41	1.28	1.16	1.05	0.96	0.88	0.80	0.68	0.63	0.59	0.55	0.52	0.49	0.46
Discounted tariff components (Total)		8.54	7.42	6.90	6.42	5.98	5.57	5.20	4.85	4.53	4.24	3.96	3.71	3.47	3.20	3.01	2.84	2.67	2.52	2.37	2.23
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.31																				

HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)
Biomass generic tariff (Water Cooled Travelling Grate)

Table of Parameters					
Capital cost (Rs. in Million / MW)	55.900	Water Cooled			
Residual value (10%)	5.59				
Total depreciation (Rs in Million / MW)	50.31				
Loan component (Rs in Million / MW)	39.13				
Equity component (Rs in Million / MW)	16.77				
CUF (stablisation)	65%				
CUF 1st year (Including Stabilisation)	65%				
CUF 2nd year onwards	80%				
O&M (Rs Million / MW)	4.47		4.00	4.2288	4.470687
O&M escalation	5.72%				
Depreication (first 13 years)	5.38%				
ROE (1st 10 years)	14%				
ROE (11th year onwards)	14%				
Income tax (MAT) **pass through**	0.00%				
Income tax (Corporate Tax) **pass through**	0.00%				
Interest on term loan	10.13%		MCLR +2%		
Interest on working capital	9.13%		MCLR + 1%		
Auxiliary consumption (1st year)	10%				
Auxiliary consumption (2nd year onwards)	10%				
Fuel cost (Rs. / MT)	3605.175		3270	3433.5	3605.175
Fuel price escalation	5%				
Heat rate (Kcal/kWh)	4126	Travelling Grate			
GCV (Kcal/kg)	3100				
Discount rate WACC	11.29%				
Levellised tariff	10.11				

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3605	3785	3975	4173	4382	4601	4831	5073	5326	5593	5872	6166	6474	6798	7138	7495	7870	8263	8676	9110
O&M escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		39.13	36.12	33.11	30.10	27.09	24.08	21.07	18.06	15.05	12.04	9.03	6.02	3.01							
Loan repayment		3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01							
Interest on loan		3.81	3.51	3.20	2.90	2.59	2.29	1.98	1.68	1.37	1.07	0.76	0.46	0.15							
Working Capital																					
Fuel cost for four months		9.11	11.77	12.36	12.98	13.62	14.31	15.02	15.77	16.56	17.39	18.26	19.17	20.13	21.14	22.19	23.30	24.47	25.69	26.98	28.32
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.09	8.47	8.78	9.10	9.44	9.80	10.18	10.58	11.01	11.46	11.94	12.44	12.97	13.32	13.96	14.64	15.35	16.10	16.88	17.71
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		17.24	21.35	22.30	23.31	24.37	25.48	26.66	27.89	29.20	30.57	32.01	33.53	35.13	36.60	38.43	40.35	42.36	44.48	46.70	49.04
Interest on working capital		1.57	1.95	2.04	2.13	2.22	2.33	2.43	2.55	2.67	2.79	2.92	3.06	3.21	3.34	3.51	3.68	3.87	4.06	4.26	4.48
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Generation (Ex-bus Mllion Units)	A1	5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Station Heat Rate (Kcal/kWh)	B	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126	4126
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	23493	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915	28915
Fuel Consumption (MT)	E=(D*1000/C)	7579	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327	9327
Cost of fuel per MT`	F	3605	3785	3975	4173	4382	4601	4831	5073	5326	5593	5872	6166	6474	6798	7138	7495	7870	8263	8676	9110
Total Cost of fuel (Rs Million)	G=E*F/10^6	27.32	35.31	37.07	38.93	40.87	42.92	45.06	47.32	49.68	52.17	54.77	57.51	60.39	63.41	66.58	69.91	73.40	77.07	80.93	84.97
Fuel Cost (Rs/kWh)	H=G/A1	5.33	5.60	5.88	6.17	6.48	6.80	7.14	7.50	7.88	8.27	8.68	9.12	9.57	10.05	10.56	11.08	11.64	12.22	12.83	13.47
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	1.60	1.60	1.60	1.60	1.60	1.60	1.60
Interest on Term Loan		3.81	3.51	3.20	2.90	2.59	2.29	1.98	1.68	1.37	1.07	0.76	0.46	0.15							
Interest on Working Capital		1.57	1.95	2.04	2.13	2.22	2.33	2.43	2.55	2.67	2.79	2.92	3.06	3.21	3.34	3.51	3.68	3.87	4.06	4.26	4.48
Return on Equity		2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		15.21	15.54	15.59	15.66	15.76	15.87	16.01	16.18	16.37	16.59	16.84	17.12	17.43	16.51	17.20	17.93	18.70	19.52	20.38	21.29
Fixed cost (Rs/kWh)		2.97	2.46	2.47	2.48	2.50	2.52	2.54	2.56	2.60	2.63	2.67	2.71	2.76	2.62	2.73	2.84	2.97	3.09	3.23	3.38
Total cost (Fixed+variable)		42.53	50.85	52.66	54.59	56.63	58.79	61.08	63.49	66.05	68.76	71.61	74.63	77.82	79.91	83.78	87.84	92.11	96.59	101.31	106.26
Tariff (Rs/kWh) - Tariff Payable)		8.30	8.06	8.35	8.66	8.98	9.32	9.68	10.07	10.47	10.90	11.35	11.83	12.34	12.67	13.28	13.93	14.60	15.31	16.06	16.85
Per unit tariff components																					
Per unit O&M Expenses		0.87	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.82	1.93	2.04
Per Unit Depreciation		0.59	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Per Unit Interest on term loan		0.74	0.56	0.51	0.46	0.41	0.36	0.31	0.27	0.22	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.31	0.31	0.32	0.34	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.68	0.71
Per Unit Return on equity		0.46	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.46	5.33	5.03	4.75	4.48	4.22	3.99	3.76	3.55	3.35	3.16	2.98	2.81	2.65	2.50	2.36	2.23	2.10	1.98	1.87	1.77
Discounted tariff components(fixed)	2.65	2.97	2.21	2.00	1.80	1.63	1.47	1.34	1.21	1.10	1.00	0.92	0.84	0.77	0.65	0.61	0.57	0.54	0.50	0.47	0.44
Discounted tariff components (Total)		8.30	7.24	6.74	6.28	5.85	5.46	5.10	4.76	4.45	4.16	3.90	3.65	3.42	3.15	2.97	2.80	2.64	2.49	2.34	2.21
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.11																				

HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)

Biomass generic tariff (Air Cooled - AFBC Boiler) Single Fuel (Paddy)

Table of Parameters					
Capital cost (Rs. in Million / MW)	65.200				
Residual value (10%)	6.52				
Total depreciation (Rs in Million / MW)	58.68				
Loan component (Rs in Million / MW)	45.64				
Equity component (Rs in Million / MW)	19.56				
CUF (stablisation)	60%	six months			
CUF 1st year (Including Stabilisation)	65%				
CUF 2nd year onwards	80%				
O&M (Rs Million / MW)	4.47		4.00	4.2288	4.470687
O&M escalation	5.72%				
Depreication (first 13 years)	5.38%				
ROE (1st 10 years)	14%				
ROE (11th year onwards)	14%				
Income tax (MAT) **pass through**	0.00%				
Income tax (Corporate Tax) **pass through**	0.00%				
Interest on term loan	10.13%	MCLR +2%			
Interest on working capital	9.13%	MCLR + 1%			
Auxiliary consumption (1st year)	12.50%	13% for 6 months and 12% thereafter as per CERC			
Auxiliary consumption (2nd year onwards)	12%				
Fuel cost (Rs. / MT)	3605.61				
Fuel price escalation	5%				
Heat rate (Kcal/kWh)	4125	AFBC Boiler			
GCV (Kcal/kg)	3100				
Discount rate WACC	11.29%				
Levellised tariff	10.68				

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		45.64	42.13	38.62	35.11	31.60	28.09	24.58	21.06	17.55	14.04	10.53	7.02	3.51							
Loan repayment		3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51							
Interest on loan		4.45	4.09	3.73	3.38	3.02	2.67	2.31	1.96	1.60	1.24	0.89	0.53	0.18							
Working Capital																					
Fuel cost for 6 months		13.13	17.65	18.53	19.46	20.43	21.46	22.53	23.66	24.84	26.08	27.38	28.75	30.19	31.70	33.29	34.95	36.70	38.53	40.46	42.48
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.23	8.81	9.11	9.43	9.77	10.12	10.50	10.90	11.32	11.77	12.25	12.75	13.28	13.59	14.24	14.93	15.65	16.41	17.20	18.04
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		21.41	27.57	28.81	30.12	31.50	32.96	34.49	36.10	37.79	39.57	41.45	43.43	45.50	47.44	49.80	52.28	54.89	57.62	60.50	63.52
Interest on working capital		1.95	2.52	2.63	2.75	2.88	3.01	3.15	3.30	3.45	3.61	3.78	3.96	4.15	4.33	4.55	4.77	5.01	5.26	5.52	5.80
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.48	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		12.50%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Generation (Ex-bus Mllion Units)	A1	4.79	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
Station Heat Rate (Kcal/kWh)	B	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	22584	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908
Fuel Consumption (MT)	E=(D*1000/C)	7285	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325
Cost of fuel per MT`	F	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	G=E*F/10^6	26.27	35.30	37.07	38.92	40.87	42.91	45.06	47.31	49.68	52.16	54.77	57.51	60.38	63.40	66.57	69.90	73.39	77.06	80.92	84.96
Fuel Cost (Rs/kWh)	H=G/A1	5.48	5.72	6.01	6.31	6.63	6.96	7.31	7.67	8.06	8.46	8.88	9.32	9.79	10.28	10.79	11.33	11.90	12.50	13.12	13.78
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	1.87	1.87	1.87	1.87	1.87	1.87	1.87
Interest on Term Loan		4.45	4.09	3.73	3.38	3.02	2.67	2.31	1.96	1.60	1.24	0.89	0.53	0.18							
Interest on Working Capital		1.95	2.52	2.63	2.75	2.88	3.01	3.15	3.30	3.45	3.61	3.78	3.96	4.15	4.33	4.55	4.77	5.01	5.26	5.52	5.80
Return on Equity		2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		17.12	17.58	17.61	17.66	17.73	17.83	17.95	18.10	18.27	18.48	18.72	18.99	19.29	18.15	18.89	19.68	20.50	21.38	22.30	23.27
Fixed cost (Rs/kWh)		3.57	2.85	2.86	2.86	2.87	2.89	2.91	2.93	2.96	3.00	3.04	3.08	3.13	2.94	3.06	3.19	3.32	3.47	3.62	3.77
Total cost (Fixed+variable)		43.38	52.88	54.68	56.58	58.60	60.74	63.01	65.41	67.95	70.64	73.49	76.49	79.68	81.55	85.47	89.58	93.90	98.44	103.22	108.23
Tariff (Rs/kWh)		9.06	8.58	8.87	9.17	9.50	9.85	10.22	10.61	11.02	11.45	11.92	12.40	12.92	13.22	13.86	14.53	15.23	15.96	16.74	17.55
Per unit tariff components																					
Per unit O&M Expenses		0.93	0.77	0.81	0.86	0.91	0.96	1.01	1.07	1.13	1.20	1.26	1.34	1.41	1.49	1.58	1.67	1.77	1.87	1.97	2.09
Per Unit Depreciation		0.73	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Per Unit Interest on term loan		0.93	0.66	0.61	0.55	0.49	0.43	0.37	0.32	0.26	0.20	0.14	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.41	0.41	0.43	0.45	0.47	0.49	0.51	0.53	0.56	0.59	0.61	0.64	0.67	0.70	0.74	0.77	0.81	0.85	0.90	0.94
Per Unit Return on equity		0.57	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.63	5.48	5.14	4.85	4.58	4.32	4.08	3.85	3.63	3.42	3.23	3.05	2.87	2.71	2.56	2.41	2.28	2.15	2.03	1.91	1.81
Discounted tariff components(fixed)	3.05	3.57	2.56	2.31	2.08	1.87	1.69	1.53	1.39	1.26	1.14	1.04	0.95	0.87	0.73	0.69	0.64	0.60	0.56	0.53	0.49
Discounted tariff components (Total)		9.06	7.71	7.16	6.66	6.19	5.77	5.38	5.02	4.68	4.37	4.09	3.82	3.58	3.29	3.10	2.92	2.75	2.59	2.44	2.30
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.68																				

HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)

Biomass generic tariff (Water Cooled - Travelling Grate) Single Fuel (Paddy)

Table of Parameters					
Capital cost (Rs. in Million / MW)	61.000				
Residual value (10%)	6.10				
Total depreciation (Rs in Million / MW)	54.90				
Loan component (Rs in Million / MW)	42.70				
Equity component (Rs in Million / MW)	18.30				
CUF (stablisation)	60%	six months			
CUF 1st year (Including Stabilisation)	65%				
CUF 2nd year onwards	80%				
O&M (Rs Million / MW)	4.47		4.00	4.2288	4.470687
O&M escalation	5.72%				
Depreication (first 13 years)	5.38%				
ROE (1st 10 years)	14%				
ROE (11th year onwards)	14%				
Income tax (MAT) **pass through**	0.00%				
Income tax (Corporate Tax) **pass through**	0.00%				
Interest on term loan	10.13%	MCLR +2%			
Interest on working capital	9.13%	MCLR + 1%			
Auxiliary consumption (1st year) inc stabilisatio	10.5%	10.5	CERC		
Auxiliary consumption (2nd year onwards)	10%				
Fuel cost (Rs. / MT)	3605.61				
Fuel price escalation	5%				
Heat rate (Kcal/kWh)	4200	CERC TG			
GCV (Kcal/kg)	3100				
Discount rate WACC	11.29%				
Levellised tariff	10.49				

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		42.70	39.42	36.13	32.85	29.56	26.28	22.99	19.71	16.42	13.14	9.85	6.57	3.28							
Loan repayment		3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28							
Interest on loan		4.16	3.83	3.49	3.16	2.83	2.50	2.16	1.83	1.50	1.16	0.83	0.50	0.17							
Working Capital																					
Fuel cost for 6 months		13.37	17.97	18.87	19.82	20.81	21.85	22.94	24.09	25.29	26.55	27.88	29.28	30.74	32.28	33.89	35.59	37.36	39.23	41.19	43.25
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.20	8.81	9.12	9.45	9.80	10.16	10.55	10.96	11.40	11.86	12.35	12.86	13.40	13.75	14.41	15.10	15.84	16.60	17.41	18.26
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		21.61	27.89	29.16	30.50	31.91	33.39	34.95	36.59	38.32	40.13	42.05	44.06	46.18	48.17	50.57	53.09	55.74	58.52	61.45	64.52
Interest on working capital		1.97	2.55	2.66	2.78	2.91	3.05	3.19	3.34	3.50	3.66	3.84	4.02	4.22	4.40	4.62	4.85	5.09	5.34	5.61	5.89
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.48	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Generation (Ex-bus Mllion Units)	A1	4.90	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Station Heat Rate (Kcal/kWh)	B	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	22995	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434	29434
Fuel Consumption (MT)	E=(D*1000/C)	7418	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495	9495
Cost of fuel per MT`	F	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	G=E*F/10^6	26.75	35.95	37.74	39.63	41.61	43.69	45.88	48.17	50.58	53.11	55.76	58.55	61.48	64.55	67.78	71.17	74.73	78.47	82.39	86.51
Fuel Cost (Rs/kWh)	H=G/A1	5.46	5.70	5.98	6.28	6.60	6.93	7.27	7.64	8.02	8.42	8.84	9.28	9.75	10.23	10.75	11.28	11.85	12.44	13.06	13.72
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on Term Loan		4.16	3.83	3.49	3.16	2.83	2.50	2.16	1.83	1.50	1.16	0.83	0.50	0.17							
Interest on Working Capital		1.97	2.55	2.66	2.78	2.91	3.05	3.19	3.34	3.50	3.66	3.84	4.02	4.22	4.40	4.62	4.85	5.09	5.34	5.61	5.89
Return on Equity		2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		16.45	16.94	17.00	17.07	17.17	17.29	17.44	17.61	17.82	18.05	18.31	18.61	18.94	17.92	18.67	19.45	20.29	21.16	22.09	23.06
Fixed cost (Rs/kWh)		3.36	2.69	2.69	2.71	2.72	2.74	2.76	2.79	2.82	2.86	2.90	2.95	3.00	2.84	2.96	3.08	3.22	3.36	3.50	3.66
Total cost (Fixed+variable)		43.19	52.89	54.74	56.70	58.78	60.98	63.32	65.78	68.40	71.16	74.08	77.16	80.42	82.48	86.45	90.63	95.01	99.63	104.48	109.57
Tariff (Rs/kWh)		8.81	8.39	8.68	8.99	9.32	9.67	10.04	10.43	10.84	11.28	11.74	12.23	12.75	13.08	13.71	14.37	15.06	15.80	16.56	17.37
Per unit tariff components																					
Per unit O&M Expenses		0.91	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.82	1.93	2.04
Per Unit Depreciation		0.67	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Per Unit Interest on term loan		0.85	0.61	0.55	0.50	0.45	0.40	0.34	0.29	0.24	0.18	0.13	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.40	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.64	0.67	0.70	0.73	0.77	0.81	0.85	0.89	0.93
Per Unit Return on equity		0.52	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.60	5.46	5.12	4.83	4.56	4.30	4.06	3.83	3.61	3.41	3.22	3.03	2.86	2.70	2.55	2.40	2.27	2.14	2.02	1.90	1.80
Discounted tariff components(fixed)	2.90	3.36	2.41	2.18	1.96	1.77	1.61	1.46	1.32	1.20	1.09	1.00	0.91	0.83	0.71	0.66	0.62	0.58	0.54	0.51	0.48
Discounted tariff components (Total)		8.81	7.53	7.01	6.52	6.08	5.66	5.28	4.93	4.61	4.31	4.03	3.77	3.53	3.26	3.07	2.89	2.72	2.56	2.42	2.28
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.49																				

HERC FY 2019-20 & 2020-21TARIFF (Rs / kWh)

Biomass generic tariff (Water Cooled - AFBC) Single Fuel (Paddy)

Table of Parameters		
Capital cost (Rs. in Million / MW)	61.000	
Residual value (10%)	6.10	
Total depreciation (Rs in Million / MW)	54.90	
Loan component (Rs in Million / MW)	42.70	
Equity component (Rs in Million / MW)	18.30	
CUF (stablisation) six months	60%	CERC
CUF 1st year (Including Stabilisation)	65%	
CUF 2nd year onwards	80%	
O&M (Rs Million / MW)	4.47	4.00 4.2288 4.470687
O&M escalation	5.72%	
Depreication (first 13 years)	5.38%	
ROE (1st 10 years)	14%	
ROE (11th year onwards)	14%	
Income tax (MAT) **pass through**	0.00%	
Income tax (Corporate Tax) **pass through**	0.00%	
Interest on term loan	10.13%	MCLR +2%
Interest on working capital	9.13%	MCLR + 1%
Auxiliary consumption (1st year)	10%	
Auxiliary consumption (2nd year onwards)	10%	
Fuel cost (Rs. / MT)	3605.61	
Fuel price escalation	5%	
Heat rate (Kcal/kWh)	4125	AFBC Boiler CERC
GCV (Kcal/kg)	3100	
Discount rate WACC	11.29%	
Levellised tariff	10.34	

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Outstanding Loan amount		42.70	39.42	36.13	32.85	29.56	26.28	22.99	19.71	16.42	13.14	9.85	6.57	3.28							
Loan repayment		3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28							
Interest on loan		4.16	3.83	3.49	3.16	2.83	2.50	2.16	1.83	1.50	1.16	0.83	0.50	0.17							
Working Capital																					
Fuel cost for 6 months		13.13	17.65	18.53	19.46	20.43	21.46	22.53	23.66	24.84	26.08	27.38	28.75	30.19	31.70	33.29	34.95	36.70	38.53	40.46	42.48
One month O&M		0.37	0.39	0.42	0.44	0.47	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
2 Months receivables		7.11	8.70	9.00	9.33	9.67	10.03	10.41	10.81	11.24	11.69	12.17	12.68	13.21	13.54	14.19	14.88	15.60	16.36	17.15	17.99
Maintenance spares15% of O&M		0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.83	1.93
Total		21.29	27.46	28.70	30.02	31.40	32.86	34.39	36.01	37.71	39.49	41.37	43.35	45.43	47.39	49.75	52.23	54.84	57.57	60.45	63.47
Interest on working capital		1.94	2.51	2.62	2.74	2.87	3.00	3.14	3.29	3.44	3.61	3.78	3.96	4.15	4.33	4.54	4.77	5.01	5.26	5.52	5.79
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.48	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Cons (%)		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Generation (Ex-bus Mllion Units)	A1	4.93	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Station Heat Rate (Kcal/kWh)	B	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125	4125
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	22584	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908	28908
Fuel Consumption (MT)	E=(D*1000/C)	7285	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325	9325
Cost of fuel per MT `	F	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	G=E*F/10^6	26.27	35.30	37.07	38.92	40.87	42.91	45.06	47.31	49.68	52.16	54.77	57.51	60.38	63.40	66.57	69.90	73.39	77.06	80.92	84.96
Fuel Cost (Rs/kWh)	H=G/A1	5.33	5.60	5.88	6.17	6.48	6.80	7.14	7.50	7.88	8.27	8.68	9.12	9.57	10.05	10.55	11.08	11.64	12.22	12.83	13.47
Fixed Costs																					
O&M Expenses		4.47	4.73	5.00	5.28	5.58	5.90	6.24	6.60	6.98	7.38	7.80	8.24	8.71	9.21	9.74	10.30	10.89	11.51	12.17	12.86
Depreciation		3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on Term Loan		4.16	3.83	3.49	3.16	2.83	2.50	2.16	1.83	1.50	1.16	0.83	0.50	0.17							
Interest on Working Capital		1.94	2.51	2.62	2.74	2.87	3.00	3.14	3.29	3.44	3.61	3.78	3.96	4.15	4.33	4.54	4.77	5.01	5.26	5.52	5.79
Return on Equity		2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		16.42	16.90	16.95	17.03	17.12	17.24	17.39	17.56	17.76	17.99	18.25	18.54	18.87	17.85	18.59	19.38	20.20	21.08	22.00	22.97
Fixed cost (Rs/kWh)		3.33	2.68	2.69	2.70	2.71	2.73	2.76	2.78	2.82	2.85	2.89	2.94	2.99	2.83	2.95	3.07	3.20	3.34	3.49	3.64
Total cost (Fixed+variable)		42.69	52.21	54.02	55.95	57.99	60.16	62.45	64.87	67.44	70.15	73.02	76.05	79.25	81.25	85.16	89.28	93.60	98.14	102.91	107.93
Tariff (Rs/kWh)		8.66	8.28	8.57	8.87	9.19	9.54	9.90	10.29	10.69	11.12	11.58	12.06	12.57	12.88	13.50	14.15	14.84	15.56	16.32	17.11
Per unit tariff components																					
Per unit O&M Expenses		0.91	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.38	1.46	1.54	1.63	1.73	1.82	1.93	2.04
Per Unit Depreciation		0.67	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Per Unit Interest on term loan		0.84	0.61	0.55	0.50	0.45	0.40	0.34	0.29	0.24	0.18	0.13	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.39	0.40	0.42	0.43	0.45	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	0.88	0.92
Per Unit Return on equity		0.52	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.46	5.33	5.03	4.75	4.48	4.22	3.99	3.76	3.55	3.35	3.16	2.98	2.81	2.65	2.50	2.36	2.23	2.10	1.98	1.87	1.76
Discounted tariff components(fixed)	2.89	3.33	2.41	2.17	1.96	1.77	1.60	1.45	1.32	1.20	1.09	0.99	0.91	0.83	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Discounted tariff components (Total)		8.66	7.44	6.92	6.44	5.99	5.59	5.21	4.86	4.54	4.25	3.97	3.72	3.48	3.21	3.02	2.84	2.68	2.52	2.38	2.24
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Tariff (Rs/kWh)	10.34																				

HERC FY 2019-20 & FY 2020-21 TARIFF (Rs / kWh)

Bagasse generic tariff (Cogeneeration)

Table of Parameters				
Capital cost (Rs. in Million / MW)	49.250			
Residual value (10%)	4.93			
Total depreciation (Rs in Million / MW)	44.33			
Loan component (Rs in Million / MW)	34.48			
Equity component (Rs in Million / MW)	14.78			
CUF (stablisation)	53%			
CUF 1st year (Including Stabilisation)	53%			
CUF 2nd year onwards	53%			
O&M (Rs Million / MW)	0.23	0.21	0.222012	0.23
O&M escalation	5.72%			
Depreication (first 13 years)	5.38%			
ROE (1st 10 years)	14%			
ROE (11th year onwards)	14%			
Income tax (MAT) **pass through**	0.00%			
Income tax (Corporate Tax) **pass through**	0.00%			
Interest on term loan	10.13%	MCLR+2%		
Interest on working capital	9.13%	MCLR+1%		
Auxiliary consumption (1st year)	8.50%			
Auxiliary consumption (2nd year onwards)	8.50%			
Fuel cost (Rs. / MT)	2543.75	2307	2422.35	2543.468
Fuel price escalation	5.00%			
Heat rate (Kcal/kWh)	3600			
GCV (Kcal/kg)	2250			
Discount rate WACC	11.29%			
Levellised tariff	8.11			

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		2544	2671	2804	2945	3092	3247	3409	3579	3758	3946	4144	4351	4568	4797	5036	5288	5553	5830	6122	6428
O&M escalation		0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66
Outstanding Loan amount		34.48	31.82	29.17	26.52	23.87	21.22	18.56	15.91	13.26	10.61	7.96	5.30	2.65							
Loan repayment		2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65							
Interest on loan		3.36	3.09	2.82	2.55	2.28	2.01	1.75	1.48	1.21	0.94	0.67	0.40	0.13							
Working Capital																					
Fuel cost for four months		6.30	6.61	6.94	7.29	7.66	8.04	8.44	8.86	9.31	9.77	10.26	10.77	11.31	11.88	12.47	13.09	13.75	14.44	15.16	15.92
One month O&M		0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06
2 Months receivables		4.70	4.82	4.95	5.09	5.24	5.40	5.57	5.74	5.93	6.14	6.35	6.58	6.82	6.88	7.20	7.53	7.88	8.24	8.63	9.03
Maintenance spares15% of O&M		0.03	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10
Total		11.05	11.49	11.96	12.45	12.96	13.51	14.08	14.69	15.32	16.00	16.70	17.45	18.23	18.87	19.79	20.75	21.76	22.82	23.93	25.10
Interest on working capital		1.01	1.05	1.09	1.14	1.18	1.23	1.29	1.34	1.40	1.46	1.52	1.59	1.66	1.72	1.81	1.89	1.99	2.08	2.19	2.29
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
Auxiliary Cons (%)		8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Generation (Ex-bus Mllion Units)	A1	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Station Heat Rate (Kcal/kWh)	B	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Calorific Value of fuel(Kcal/Kg)	C	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
Overall Heat (Gcal)	D= (A*B)	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714
Fuel Consumption (MT)	E=(D*1000/C)	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428	7428
Cost of fuel per MT`	F	2544	2671	2804	2945	3092	3247	3409	3579	3758	3946	4144	4351	4568	4797	5036	5288	5553	5830	6122	6428
Total Cost of fuel (Rs Million)	G=E*F/10^6	18.90	19.84	20.83	21.87	22.97	24.12	25.32	26.59	27.92	29.31	30.78	32.32	33.93	35.63	37.41	39.28	41.25	43.31	45.48	47.75
Fuel Cost (Rs/kWh)	H=G/A1	4.45	4.67	4.90	5.15	5.41	5.68	5.96	6.26	6.57	6.90	7.25	7.61	7.99	8.39	8.81	9.25	9.71	10.20	10.70	11.24
Fixed Costs																					
O&M Expenses		0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66
Depreciation		2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	1.41	1.41	1.41	1.41	1.41	1.41	1.41
Interest on Term Loan		3.36	3.09	2.82	2.55	2.28	2.01	1.75	1.48	1.21	0.94	0.67	0.40	0.13							
Interest on Working Capital		1.01	1.05	1.09	1.14	1.18	1.23	1.29	1.34	1.40	1.46	1.52	1.59	1.66	1.72	1.81	1.89	1.99	2.08	2.19	2.29
Return on Equity		2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		9.32	9.10	8.89	8.68	8.47	8.27	8.07	7.88	7.68	7.50	7.32	7.14	6.97	5.68	5.79	5.90	6.03	6.16	6.29	6.43
Fixed cost (Rs/kWh)		2.19	2.14	2.09	2.04	1.99	1.95	1.90	1.85	1.81	1.77	1.72	1.68	1.64	1.34	1.36	1.39	1.42	1.45	1.48	1.51
Total cost (Fixed+variable)		28.21	28.94	29.72	30.55	31.44	32.39	33.39	34.46	35.60	36.81	38.10	39.46	40.90	41.31	43.20	45.19	47.27	49.47	51.77	54.18
Tariff (Rs/kWh)		6.64	6.81	7.00	7.19	7.40	7.62	7.86	8.11	8.38	8.67	8.97	9.29	9.63	9.72	10.17	10.64	11.13	11.64	12.19	12.75
Per unit tariff components																					
Per unit O&M Expenses		0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.16
Per Unit Depreciation		0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Per Unit Interest on term loan		0.79	0.73	0.66	0.60	0.54	0.47	0.41	0.35	0.28	0.22	0.16	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.24	0.25	0.26	0.27	0.28	0.29	0.30	0.32	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54
Per Unit Return on equity		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
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	6.22	4.45	4.20	3.96	3.74	3.52	3.33	3.14	2.96	2.79	2.63	2.49	2.35	2.21	2.09	1.97	1.86	1.75	1.65	1.56	1.47
Discounted tariff components(fixed)	1.89	2.19	1.92	1.69	1.48	1.30	1.14	1.00	0.88	0.77	0.67	0.59	0.52	0.45	0.33	0.30	0.28	0.26	0.24	0.22	0.20
Discounted tariff components (Total)		6.64	6.12	5.65	5.22	4.82	4.47	4.14	3.84	3.56	3.31	3.08	2.86	2.67	2.42	2.27	2.14	2.01	1.89	1.78	1.67

HERC FY 2019-20 & FY 2020-21 TARIFF (Rs / kWh)

Non Fossil Fuel (Cogeneration) Other than Bagasse i.e. biomass etc.

Table of Parameters				
Capital cost (Rs. in Million / MW)	49.250			
Residual value (10%)	4.93			
Total depreciation (Rs in Million / MW)	44.33			
Loan component (Rs in Million / MW)	34.48			
Equity component (Rs in Million / MW)	14.78			
CUF (stablisation)	53%			
CUF 1st year (Including Stabilisation)	53%			
CUF 2nd year onwards	53%			
O&M (Rs Million / MW)	0.23	0.21	0.222012	0.23
O&M escalation	5.72%			
Depreication (first 13 years)	5.38%			
ROE (1st 10 years)	14%			
ROE (11th year onwards)	14%			
Income tax (MAT) **pass through**	0.00%			
Income tax (Corporate Tax) **pass through**	0.00%			
Interest on term loan	10.13%	MCLR+2%		
Interest on working capital	9.13%	MCLR+1%		
Auxiliary consumption (1st year)	8.50%			
Auxiliary consumption (2nd year onwards)	8.50%			
Fuel cost (Rs. / MT)	3605.61			
Fuel price escalation	5.00%			
Heat rate (Kcal/kWh)	3600			
GCV (Kcal/kg)	3100			
Discount rate WACC	11.29%			
Levellised tariff	8.30			

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66
Outstanding Loan amount		34.48	31.82	29.17	26.52	23.87	21.22	18.56	15.91	13.26	10.61	7.96	5.30	2.65							
Loan repayment		2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65							
Interest on loan		3.36	3.09	2.82	2.55	2.28	2.01	1.75	1.48	1.21	0.94	0.67	0.40	0.13							
Working Capital																					
Fuel cost for four months		6.48	6.80	7.14	7.50	7.88	8.27	8.68	9.12	9.57	10.05	10.56	11.08	11.64	12.22	12.83	13.47	14.15	14.85	15.60	16.37
One month O&M		0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06
2 Months receivables		4.80	4.92	5.06	5.20	5.36	5.52	5.69	5.88	6.07	6.28	6.50	6.74	6.99	7.06	7.39	7.73	8.09	8.46	8.86	9.27
Maintenance spares15% of O&M		0.03	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10
Total		11.33	11.78	12.26	12.77	13.30	13.86	14.45	15.07	15.73	16.42	17.15	17.92	18.73	19.39	20.33	21.32	22.36	23.45	24.60	25.80
Interest on working capital		1.03	1.08	1.12	1.17	1.21	1.27	1.32	1.38	1.44	1.50	1.57	1.64	1.71	1.77	1.86	1.95	2.04	2.14	2.25	2.36
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
Auxiliary Cons (%)		8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Generation (Ex-bus Mllion Units)	A1	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Station Heat Rate (Kcal/kWh)	B	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Calorific Value of fuel(Kcal/Kg)	C	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Overall Heat (Gcal)	D= (A*B)	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714	16714
Fuel Consumption (MT)	E=(D*1000/C)	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392	5392
Cost of fuel per MT`	F	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	G=E*F/10^6	19.44	20.41	21.43	22.50	23.63	24.81	26.05	27.35	28.72	30.16	31.67	33.25	34.91	36.66	38.49	40.41	42.44	44.56	46.79	49.12
Fuel Cost (Rs/kWh)	H=G/A1	4.58	4.80	5.05	5.30	5.56	5.84	6.13	6.44	6.76	7.10	7.45	7.83	8.22	8.63	9.06	9.51	9.99	10.49	11.01	11.56
Fixed Costs																					
O&M Expenses		0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66
Depreciation		2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	1.41	1.41	1.41	1.41	1.41	1.41	1.41
Interest on Term Loan		3.36	3.09	2.82	2.55	2.28	2.01	1.75	1.48	1.21	0.94	0.67	0.40	0.13							
Interest on Working Capital		1.03	1.08	1.12	1.17	1.21	1.27	1.32	1.38	1.44	1.50	1.57	1.64	1.71	1.77	1.86	1.95	2.04	2.14	2.25	2.36
Return on Equity		2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		9.34	9.13	8.92	8.71	8.50	8.30	8.10	7.91	7.72	7.54	7.36	7.18	7.01	5.72	5.84	5.96	6.08	6.21	6.35	6.50
Fixed cost (Rs/kWh)		2.20	2.15	2.10	2.05	2.00	1.95	1.91	1.86	1.82	1.77	1.73	1.69	1.65	1.35	1.37	1.40	1.43	1.46	1.50	1.53
Total cost (Fixed+variable)		28.78	29.54	30.35	31.21	32.13	33.11	34.16	35.27	36.44	37.70	39.02	40.43	41.92	42.38	44.33	46.37	48.52	50.77	53.14	55.62
Tariff (Rs/kWh)		6.77	6.95	7.14	7.35	7.56	7.79	8.04	8.30	8.58	8.87	9.19	9.52	9.87	9.98	10.43	10.92	11.42	11.95	12.51	13.09
Per unit tariff components																					
Per unit O&M Expenses		0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.16
Per Unit Depreciation		0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Per Unit Interest on term loan		0.79	0.73	0.66	0.60	0.54	0.47	0.41	0.35	0.28	0.22	0.16	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.24	0.25	0.26	0.27	0.29	0.30	0.31	0.32	0.34	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55
Per Unit Return on equity		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
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	6.40	4.58	4.32	4.07	3.84	3.63	3.42	3.23	3.05	2.87	2.71	2.56	2.41	2.28	2.15	2.03	1.91	1.80	1.70	1.61	1.52
Discounted tariff components(fixed)	1.90	2.20	1.93	1.69	1.49	1.30	1.14	1.00	0.88	0.77	0.68	0.59	0.52	0.46	0.34	0.31	0.28	0.26	0.24	0.22	0.20
Discounted tariff components (Total)		6.77	6.25	5.77	5.33	4.93	4.57	4.23	3.93	3.65	3.39	3.15	2.93	2.73	2.48	2.33	2.19	2.06	1.94	1.82	1.72

HERC FY 2019-20 & 2020-21 TARIFF (Rs / kWh)
WtE Projects

Table of Parameters	
Capital cost (Rs. in Million / MW)	150.000
Residual value (10%)	15.00
Total depreciation (Rs in Million / MW)	135.00
Loan component (Rs in Million / MW)	105.00
Equity component (Rs in Million / MW)	45.00
CUF (stablisation)	65%
CUF 1st year (Including Stabilisation)	65%
CUF 2nd year onwards	75%
O&M (Rs Million / MW) 6.5% of Capital Cost	10.8973
O&M escalation	5.72%
Depreication (first 13 years)	5.38%
ROE (1st 10 years)	14%
ROE (11th year onwards)	14%
Income tax (MAT) **pass through**	0.00%
Income tax (Corporate Tax) **pass through**	0.00%
Interest on term loan	10.130%
Interest on working capital	9.130%
Auxiliary consumption (1st year)	15.50%
Auxiliary consumption (2nd year onwards)	15.50%
Discount rate WACC	11.29%
Levellised tariff	6.66

9.75	10.3077	10.8973	

WACC			
0.1013	0.7	0.07091	cost of term loan
0.14	0.3	0.042	cost of equity
		0.1129	
		11.29	

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O&M escalation		10.90	11.52	12.18	12.88	13.61	14.39	15.21	16.08	17.00	17.98	19.01	20.09	21.24	22.46	23.74	25.10	26.54	28.05	29.66	31.35
Outstanding Loan amount		105.00	96.92	88.85	80.77	72.69	64.62	56.54	48.46	40.38	32.31	24.23	16.15	8.08							
Loan repayment		8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08							
Interest on loan		10.23	9.41	8.59	7.77	6.95	6.14	5.32	4.50	3.68	2.86	2.05	1.23	0.41							
Working Capital																					
Fuel cost for four months		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	0.00	0.00	0.00	0.00
One month O&M		0.91	0.96	1.01	1.07	1.13	1.20	1.27	1.34	1.42	1.50	1.58	1.67	1.77	1.87	1.98	2.09	2.21	2.34	2.47	2.61
2 Months receivables		6.05	6.02	5.99	5.97	5.96	5.96	5.96	5.97	5.99	6.02	6.06	6.11	6.17	5.68	5.90	6.13	6.38	6.64	6.92	7.21
Maintenance spares15% of O&M		1.63	1.73	1.83	1.93	2.04	2.16	2.28	2.41	2.55	2.70	2.85	3.01	3.19	3.37	3.56	3.77	3.98	4.21	4.45	4.70
Total		8.59	8.70	8.83	8.98	9.14	9.32	9.51	9.73	9.96	10.22	10.50	10.80	11.13	10.92	11.44	11.99	12.57	13.19	13.84	14.53
Interest on working capital		0.78	0.79	0.81	0.82	0.83	0.85	0.87	0.89	0.91	0.93	0.96	0.99	1.02	1.00	1.04	1.09	1.15	1.20	1.26	1.33
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	5.69	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57	6.57
Auxiliary Cons (%)		16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Generation (Ex-bus Mllion Units)	A1	4.81	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55
Specific Fuel Consumption (kg/kWh)	B	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	0.00	0.00	0.00	0.00
Fuel Consumption (MT)	C=(A*B*1000)	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	0.00	0.00	0.00	0.00
Cost of fuel (Rs. per MT)	D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Cost of fuel (Rs Million)	E=C*D/10^6	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	0.00	0.00	0.00	0.00
Fuel Cost (Rs/kWh)	F=E/A1	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	0.00	0.00	0.00	0.00
Fixed Costs																					
O&M Expenses		10.90	11.52	12.18	12.88	13.61	14.39	15.21	16.08	17.00	17.98	19.01	20.09	21.24	22.46	23.74	25.10	26.54	28.05	29.66	31.35
Depreciation		8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	8.07	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Interest on Term Loan		10.23	9.41	8.59	7.77	6.95	6.14	5.32	4.50	3.68	2.86	2.05	1.23	0.41							
Interest on Working Capital		0.78	0.79	0.81	0.82	0.83	0.85	0.87	0.89	0.91	0.93	0.96	0.99	1.02	1.00	1.04	1.09	1.15	1.20	1.26	1.33
Return on Equity		6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		36.28	36.09	35.95	35.84	35.77	35.75	35.77	35.84	35.97	36.14	36.38	36.68	37.04	34.05	35.38	36.79	38.28	39.86	41.52	43.28
Fixed cost (Rs/kWh)		7.54	6.50	6.48	6.46	6.44	6.44	6.44	6.46	6.48	6.51	6.55	6.61	6.67	6.13	6.37	6.63	6.90	7.18	7.48	7.80
Total cost (Fixed+variable)		36.28	36.09	35.95	35.84	35.77	35.75	35.77	35.84	35.97	36.14	36.38	36.68	37.04	34.05	35.38	36.79	38.28	39.86	41.52	43.28
Tariff (Rs/kWh)		7.54	6.50	6.48	6.46	6.44	6.44	6.44	6.46	6.48	6.51	6.55	6.61	6.67	6.13	6.37	6.63	6.90	7.18	7.48	7.80
Per unit tariff components																					
Per unit O&M Expenses		2.26	2.08	2.19	2.32	2.45	2.59	2.74	2.90	3.06	3.24	3.42	3.62	3.83	4.05	4.28	4.52	4.78	5.05	5.34	5.65
Per Unit Depreciation		1.68	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Per Unit Interest on term loan		2.13	1.69	1.55	1.40	1.25	1.11	0.96	0.81	0.66	0.52	0.37	0.22	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.16	0.14	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.17	0.17	0.18	0.18	0.18	0.19	0.20	0.21	0.22	0.23	0.24
Per Unit Return on equity		1.31	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discounted tariff components(fixed)	6.66	7.54	5.84	5.23	4.68	4.20	3.77	3.39	3.05	2.75	2.49	2.25	2.04	1.85	1.53	1.43	1.33	1.25	1.16	1.09	1.02
Discounted tariff components (Total)		7.54	5.84	5.23	4.68	4.20	3.77	3.39	3.05	2.75	2.49	2.25	2.04	1.85	1.53	1.43	1.33	1.25	1.16	1.09	1.02
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Fixed Cost (Rs/kWh)	6.66																				

HERC FY 2019-20 & 2020-21 TARIFF (Rs / kWh)

Biogas generic tariff

Table of Parameters				
Capital cost (Rs. in Million / MW)	88.600			
Residual value (10%)	8.86			
Total depreciation (Rs in Million / MW)	79.74			
Loan component (Rs in Million / MW)	62.02			
Equity component (Rs in Million / MW)	26.58			
CUF (stablisation)	90%			
CUF 1st year (Including Stabilisation)	90%			
CUF 2nd year onwards	90%			
O&M (Rs Million / MW)	5.92	5.30	5.60316	5.923661
O&M escalation	5.72%			
Depreication (first 13 years)	5.38%			
ROE (1st 10 years)	14%			
ROE (11th year onwards)	14%			
Income tax (MAT) **pass through**	0.00%			
Income tax (Corporate Tax) **pass through**	0.00%			
Interest on term loan	10.13%			
Interest on working capital	9.13%			
Auxiliary consumption (1st year)	12%			
Auxiliary consumption (2nd year onwards)	12%			
Fuel cost (Rs. / MT)	1354.9725	1229	1290.45	1354.973
Fuel price escalation	5.00%			
Specific Fuel Consumption (kg/kWh)	3.00			
Discount rate WACC without tax	11.29%			
Levellised tariff	9.74			

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		1355	1423	1494	1569	1647	1729	1816	1907	2002	2102	2207	2317	2433	2555	2683	2817	2958	3106	3261	3424
O&M escalation		5.92	6.26	6.62	7.00	7.40	7.82	8.27	8.74	9.24	9.77	10.33	10.92	11.55	12.21	12.91	13.64	14.42	15.25	16.12	17.04
Outstanding Loan amount		62.02	57.25	52.48	47.71	42.94	38.17	33.40	28.62	23.85	19.08	14.31	9.54	4.77							
Loan repayment		4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77							
Interest on loan		6.04	5.56	5.07	4.59	4.11	3.62	3.14	2.66	2.17	1.69	1.21	0.72	0.24							
Working Capital																					
Fuel cost for four months		10.68	11.22	11.78	12.37	12.98	13.63	14.32	15.03	15.78	16.57	17.40	18.27	19.18	20.14	21.15	22.21	23.32	24.48	25.71	26.99
One month O&M		0.49	0.52	0.55	0.58	0.62	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.02	1.08	1.14	1.20	1.27	1.34	1.42
2 Months receivables		9.07	9.33	9.60	9.89	10.20	10.54	10.89	11.26	11.66	12.08	12.53	13.01	13.51	13.71	14.36	15.04	15.75	16.51	17.30	18.13
Maintenance spares15% of O&M		0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.39	1.47	1.55	1.64	1.73	1.83	1.94	2.05	2.16	2.29	2.42	2.56
Total		21.14	22.01	22.92	23.89	24.92	25.99	27.13	28.33	29.60	30.93	32.34	33.83	35.39	36.70	38.52	40.43	42.44	44.55	46.77	49.10
Interest on working capital		1.93	2.01	2.09	2.18	2.27	2.37	2.48	2.59	2.70	2.82	2.95	3.09	3.23	3.35	3.52	3.69	3.87	4.07	4.27	4.48
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88
Auxiliary Cons (%)		12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Generation (Ex-bus Mllion Units)	A1	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94
Specific Fuel Consumption (kg/kWh)	B	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Fuel Consumption (MT)	C=(A*B*1000)	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00	23652.00
Cost of fuel (Rs. per MT)	D	1355	1423	1494	1569	1647	1729	1816	1907	2002	2102	2207	2317	2433	2555	2683	2817	2958	3106	3261	3424
Total Cost of fuel (Rs Million)	E=C*D/10^6	32.05	33.65	35.33	37.10	38.95	40.90	42.95	45.09	47.35	49.72	52.20	54.81	57.55	60.43	63.45	66.63	69.96	73.45	77.13	80.98
Fuel Cost (Rs/kWh)	F=E/A1	4.62	4.85	5.09	5.35	5.61	5.90	6.19	6.50	6.82	7.17	7.52	7.90	8.30	8.71	9.15	9.60	10.08	10.59	11.12	11.67
Fixed Costs																					
O&M Expenses		5.92	6.26	6.62	7.00	7.40	7.82	8.27	8.74	9.24	9.77	10.33	10.92	11.55	12.21	12.91	13.64	14.42	15.25	16.12	17.04
Depreciation		4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	2.54	2.54	2.54	2.54	2.54	2.54	2.54
Interest on Term Loan		6.04	5.56	5.07	4.59	4.11	3.62	3.14	2.66	2.17	1.69	1.21	0.72	0.24							
Interest on Working Capital		1.93	2.01	2.09	2.18	2.27	2.37	2.48	2.59	2.70	2.82	2.95	3.09	3.23	3.35	3.52	3.69	3.87	4.07	4.27	4.48
Return on Equity		3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		22.38	22.32	22.28	22.26	22.27	22.31	22.38	22.48	22.61	22.78	22.98	23.22	23.51	21.82	22.68	23.60	24.56	25.58	26.65	27.79
Fixed cost (Rs/kWh)		3.23	3.22	3.21	3.21	3.21	3.22	3.23	3.24	3.26	3.28	3.31	3.35	3.39	3.14	3.27	3.40	3.54	3.69	3.84	4.01
Total cost (Fixed+variable)		54.43	55.97	57.61	59.36	61.22	63.21	65.32	67.57	69.96	72.49	75.18	78.04	81.06	82.25	86.14	90.22	94.52	99.03	103.78	108.77
Tariff (Rs/kWh)		7.85	8.07	8.30	8.56	8.82	9.11	9.42	9.74	10.08	10.45	10.84	11.25	11.68	11.86	12.42	13.00	13.62	14.27	14.96	15.68
Per unit tariff components																					
Per unit O&M Expenses		0.85	0.90	0.95	1.01	1.07	1.13	1.19	1.26	1.33	1.41	1.49	1.57	1.66	1.76	1.86	1.97	2.08	2.20	2.32	2.46
Per Unit Depreciation		0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Per Unit Interest on term loan		0.87	0.80	0.73	0.66	0.59	0.52	0.45	0.38	0.31	0.24	0.17	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.28	0.29	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.45	0.47	0.48	0.51	0.53	0.56	0.59	0.62	0.65
Per Unit Return on equity		0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	6.46	4.62	4.36	4.11	3.88	3.66	3.45	3.26	3.07	2.90	2.74	2.58	2.44	2.30	2.17	2.05	1.93	1.82	1.72	1.62	1.53
Discounted tariff components(fixed)	3.28	3.23	2.89	2.59	2.33	2.09	1.88	1.70	1.53	1.38	1.25	1.14	1.03	0.94	0.78	0.73	0.68	0.64	0.60	0.56	0.52
Discounted tariff components (Total)		7.85	7.25	6.70	6.21	5.75	5.34	4.96	4.61	4.29	3.99	3.72	3.47	3.24	2.95	2.78	2.61	2.46	2.32	2.18	2.05
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Fixed Cost (Rs/kWh)	9.74																				

HERC FY 2019-20 & 2020-21 TARIFF (Rs / kWh)

Biomass Gasifier generic tariff

Table of Parameters				
Capital cost (Rs. in Million / MW)	44.300			
Residual value (10%)	4.43			
Total depreciation (Rs in Million / MW)	39.87			
Loan component (Rs in Million / MW)	31.01			
Equity component (Rs in Million / MW)	13.29			
CUF (stablisation)	85%			
CUF 1st year (Including Stabilisation)	85%			
CUF 2nd year onwards	85%			
O&M (Rs Million / MW)	5.84	5.30	5.565	5.84325
O&M escalation	5.72%			
Depreication (first 13 years)	5.38%			
ROE (1st 10 years)	14%			
ROE (11th year onwards)	14%			
Income tax (MAT) **pass through**	0.00%			
Income tax (Corporate Tax) **pass through**	0.00%			
Interest on term loan	10.13%			
Interest on working capital	9.13%			
Auxiliary consumption (1st year)	10%			
Auxiliary consumption (2nd year onwards)	10%			
Fuel cost (Rs. / MT)	3605.61	3270	3433.5	3605.175
Fuel price escalation	5.00%			
Specific Fuel Consumption (kg/kWh)	1.25			
Discount rate WACC without tax	11.29%			
Levellised tariff	9.53			

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fuel cost escalation		3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
O&M escalation		5.84	6.18	6.53	6.90	7.30	7.72	8.16	8.62	9.12	9.64	10.19	10.77	11.39	12.04	12.73	13.46	14.23	15.04	15.90	16.81
Outstanding Loan amount		31.01	28.62	26.24	23.85	21.47	19.08	16.70	14.31	11.93	9.54	7.16	4.77	2.39							
Loan repayment		2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39							
Interest on loan		3.02	2.78	2.54	2.30	2.05	1.81	1.57	1.33	1.09	0.85	0.60	0.36	0.12							
Working Capital																					
Fuel cost for four months		11.19	11.75	12.33	12.95	13.60	14.28	14.99	15.74	16.53	17.35	18.22	19.13	20.09	21.09	22.15	23.26	24.42	25.64	26.92	28.27
One month O&M		0.49	0.51	0.54	0.58	0.61	0.64	0.68	0.72	0.76	0.80	0.85	0.90	0.95	1.00	1.06	1.12	1.19	1.25	1.33	1.40
2 Months receivables		8.09	8.40	8.73	9.08	9.44	9.83	10.24	10.67	11.13	11.61	12.12	12.65	13.22	13.65	14.32	15.02	15.76	16.54	17.36	18.22
Maintenance spares15% of O&M		0.88	0.93	0.98	1.04	1.09	1.16	1.22	1.29	1.37	1.45	1.53	1.62	1.71	1.81	1.91	2.02	2.13	2.26	2.39	2.52
Total		20.64	21.59	22.59	23.64	24.74	25.91	27.13	28.42	29.78	31.21	32.71	34.30	35.96	37.55	39.44	41.42	43.50	45.69	48.00	50.42
Interest on working capital		1.88	1.97	2.06	2.16	2.26	2.37	2.48	2.59	2.72	2.85	2.99	3.13	3.28	3.43	3.60	3.78	3.97	4.17	4.38	4.60
Variable Costs																					
Parameters	**Derivation**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Capacity (MW)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Generation (Million Units)	A	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Cons (%)		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Generation (Ex-bus Mllion Units)	A1	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Specific Fuel Consumption (kg/kWh)	B	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Fuel Consumption (MT)	C=(A*B*1000)	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50	9307.50
Cost of fuel (Rs. per MT)	D	3606	3786	3975	4174	4383	4602	4832	5073	5327	5593	5873	6167	6475	6799	7139	7496	7871	8264	8677	9111
Total Cost of fuel (Rs Million)	E=C*D/10^6	33.56	35.24	37.00	38.85	40.79	42.83	44.97	47.22	49.58	52.06	54.66	57.40	60.27	63.28	66.44	69.77	73.26	76.92	80.76	84.80
Fuel Cost (Rs/kWh)	F=E/A1	5.01	5.26	5.52	5.80	6.09	6.39	6.71	7.05	7.40	7.77	8.16	8.57	8.99	9.44	9.92	10.41	10.93	11.48	12.05	12.65
Fixed Costs																					
O&M Expenses		5.84	6.18	6.53	6.90	7.30	7.72	8.16	8.62	9.12	9.64	10.19	10.77	11.39	12.04	12.73	13.46	14.23	15.04	15.90	16.81
Depreciation		2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Interest on Term Loan		3.02	2.78	2.54	2.30	2.05	1.81	1.57	1.33	1.09	0.85	0.60	0.36	0.12							
Interest on Working Capital		1.88	1.97	2.06	2.16	2.26	2.37	2.48	2.59	2.72	2.85	2.99	3.13	3.28	3.43	3.60	3.78	3.97	4.17	4.38	4.60
Return on Equity		1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86
Income tax on ROE		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	0.00	0.00	0.00	0.00
Fixed Cost		14.99	15.17	15.37	15.60	15.86	16.14	16.45	16.79	17.17	17.58	18.03	18.51	19.04	18.60	19.46	20.37	21.33	22.34	23.42	24.55
Fixed cost (Rs/kWh)		2.24	2.26	2.29	2.33	2.37	2.41	2.45	2.51	2.56	2.62	2.69	2.76	2.84	2.78	2.90	3.04	3.18	3.33	3.49	3.66
Total cost (Fixed+variable)		48.55	50.41	52.37	54.45	56.65	58.97	61.42	64.01	66.75	69.64	72.69	75.91	79.31	81.88	85.91	90.14	94.59	99.26	104.18	109.35
Tariff (Rs/kWh)		7.24	7.52	7.82	8.13	8.45	8.80	9.17	9.55	9.96	10.39	10.85	11.33	11.83	12.22	12.82	13.45	14.11	14.81	15.55	16.32
Per unit tariff components																					
Per unit O&M Expenses		0.87	0.92	0.97	1.03	1.09	1.15	1.22	1.29	1.36	1.44	1.52	1.61	1.70	1.80	1.90	2.01	2.12	2.24	2.37	2.51
Per Unit Depreciation		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Per Unit Interest on term loan		0.45	0.41	0.38	0.34	0.31	0.27	0.23	0.20	0.16	0.13	0.09	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.28	0.29	0.31	0.32	0.34	0.35	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.65	0.69
Per Unit Return on equity		0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Per unit income tax		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	0.00	0.00	0.00	0.00
Levellised tariff																					
Discount factor		1.00	0.899	0.807	0.73	0.65	0.59	0.53	0.47	0.42	0.38	0.34	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.15	0.13
Discounted tariff components(variable)	7.01	5.01	4.72	4.46	4.21	3.97	3.74	3.53	3.33	3.14	2.97	2.80	2.64	2.49	2.35	2.22	2.09	1.97	1.86	1.76	1.66
Discounted tariff components(fixed)	2.52	2.24	2.03	1.85	1.69	1.54	1.41	1.29	1.19	1.09	1.00	0.92	0.85	0.79	0.69	0.65	0.61	0.57	0.54	0.51	0.48
Discounted tariff components (Total)		7.24	6.76	6.31	5.89	5.51	5.15	4.82	4.52	4.23	3.97	3.72	3.49	3.28	3.04	2.87	2.70	2.55	2.40	2.27	2.14
Fuel (Variable Cost) Rs/kWh		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Levellised Fixed Cost (Rs/kWh)	9.53																				