

Parameters for determination of tariff for Hydel plant less than 5 MW					
S	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	9.702
		Power Plant Cost		Rs. Cr	9.702
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.7914
			Total equity amount	Rs Cr.	2.9106
		Debt component	Loan amount	Rs Cr	6.7914
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	2.9106
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	8.67%
			Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.38
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	10.50%

Determination of tariff for Hydel plant less than 5 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	37.61	39.05	40.55	42.11	43.73	45.41	47.15	48.96	50.84	52.79
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	59.09	55.01	50.94	46.86	42.79	38.71	34.64	30.56	26.49	22.41
Interest on Working Capital	Rs Lakh	2.61	2.63	2.64	2.66	2.68	2.70	2.72	2.74	2.77	2.80
Return on Equity	Rs Lakh	48.85	48.85	43.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	193.47	190.85	183.25	185.79	183.35	180.97	178.67	176.43	174.26	172.17
Tariff	Rs/kWh	7.47	7.37	7.27	7.18	7.08	6.99	6.90	6.82	6.73	6.65

O & M expenses	Rs/kWh	1.45	1.51	1.57	1.63	1.69	1.75	1.82	1.89	1.96	2.04
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on term loan	Rs/kWh	2.28	2.13	1.97	1.81	1.65	1.50	1.34	1.18	1.02	0.87
Interest on Working Capital	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.47	7.37	7.27	7.18	7.08	6.99	6.90	6.82	6.73	6.65
Discount Factor		1	0.920	0.847	0.779	0.717	0.663	0.607	0.559	0.514	0.473
Levelised Tariff	Rs/kWh	6.69									

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Determination of tariff for Hydel plant les

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	54.82	56.93	59.11	61.38	63.74	66.19	68.73	71.37	74.11	76.95
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	18.34	14.26	10.19	6.11	2.04	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.83	2.87	2.90	2.94	2.99	2.72	2.80	2.89	2.99	3.08
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	170.15	168.22	166.36	164.60	162.92	125.50	128.13	130.86	133.69	136.63
Tariff	Rs/kWh	6.57	6.50	6.43	6.36	6.29	4.85	4.95	5.06	5.16	5.28

O & M expenses	Rs/kWh	2.12	2.20	2.28	2.37	2.46	2.56	2.66	2.75	2.86	2.97
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	0.71	0.55	0.39	0.24	0.08	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.11	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.12	0.12
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	6.57	6.50	6.43	6.36	6.29	4.85	4.95	5.06	5.16	5.28
Discount Factor		0.436	0.401	0.369	0.339	0.312	0.287	0.265	0.243	0.224	0.206
Levelled Tariff	Rs/kWh										

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Determination of tariff for Hydel plant les

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	-	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	79.91	82.98	86.16	89.47	92.91	96.48	100.18	104.03	108.02	112.17
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	3.18	3.28	3.39	3.50	3.62	3.74	3.86	3.99	4.12	4.26
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.35	48.85
Total Fixed Cost	Rs Lakh	139.68	142.85	146.15	149.57	153.12	156.81	160.64	164.61	168.74	173.03
Tariff	Rs/kWh	5.40	5.52	5.65	5.78	5.92	6.06	6.21	6.36	6.52	6.68

O & M expenses	Rs/kWh	3.09	3.21	3.33	3.46	3.59	3.73	3.87	4.02	4.17	4.33
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	5.40	5.52	5.65	5.78	5.92	6.06	6.21	6.36	6.52	6.68
Discount Factor		0.190	0.175	0.161	0.148	0.136	0.125	0.115	0.106	0.098	0.090
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plants

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	116.48	120.95	125.60	130.42	135.43	140.63	146.03	151.63	157.46	163.50
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	4.41	4.56	4.71	4.87	5.04	5.22	5.40	5.59	5.78	5.98
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	177.48	182.10	186.90	191.89	197.06	202.44	208.02	213.81	219.33	226.08
Tariff	Rs/kWh	6.86	7.03	7.22	7.41	7.61	7.82	8.04	8.26	8.49	8.73

O & M expenses	Rs/kWh	4.50	4.67	4.85	5.04	5.23	5.43	5.64	5.86	6.08	6.32
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.17	0.18	0.18	0.19	0.19	0.20	0.21	0.22	0.22	0.23
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	6.86	7.03	7.22	7.41	7.61	7.82	8.04	8.26	8.49	8.73
Discount Factor		0.083	0.076	0.070	0.064	0.059	0.055	0.050	0.046	0.043	0.039
Levelised Tariff	Rs/kWh										

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Parameters for determination of tariff for Hydel plant 5 MW to 10 MW					
S	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	8.820
		Power Plant Cost		Rs. Cr	8.82
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.174
			Total equity amount	Rs Cr.	2.646
		Debt component	Loan amount	Rs Cr	6.174
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	2.646
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	8.67%
			Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.33
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	10.50%

Determination of tariff for Hydel plant 5 MW to 10 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	32.98	34.25	35.56	36.93	38.35	39.82	41.35	42.93	44.58	46.29
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19
Interest on term loan	Rs Lakh	53.71	50.01	46.31	42.60	38.90	35.19	31.49	27.78	24.08	20.37
Interest on Working Capital	Rs Lakh	2.34	2.35	2.36	2.37	2.39	2.40	2.42	2.44	2.46	2.49
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	174.63	172.20	169.82	167.50	165.23	163.01	160.85	158.76	156.73	154.76
Tariff	Rs/kWh	6.75	6.65	6.56	6.47	6.38	6.30	6.21	6.13	6.05	5.98

O & M expenses	Rs/kWh	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
Interest on term loan	Rs/kWh	2.08	1.93	1.79	1.65	1.50	1.36	1.22	1.07	0.93	0.79
Interest on Working Capital	Rs/kWh	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	6.75	6.65	6.56	6.47	6.38	6.30	6.21	6.13	6.05	5.98
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473
Levelled Tariff	Rs/kWh	6.00									

Determination of tariff for Hydel plant 5 n

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	48.07	49.92	51.84	53.83	55.89	53.04	60.27	62.58	64.99	67.48
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	16.67	12.97	9.26	5.56	1.85	3.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.52	2.54	2.58	2.61	2.65	2.40	2.48	2.55	2.63	2.72
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	152.86	151.03	149.27	147.59	145.99	111.89	114.19	116.58	119.07	121.65
Tariff	Rs/kWh	5.91	5.83	5.77	5.70	5.64	4.32	4.41	4.50	4.60	4.70

O & M expenses	Rs/kWh	1.86	1.93	2.00	2.08	2.16	2.24	2.33	2.42	2.51	2.61
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	0.64	0.50	0.36	0.21	0.07	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.10	0.10	0.10
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	5.91	5.83	5.77	5.70	5.64	4.32	4.41	4.50	4.60	4.70
Discount Factor		0.436	0.401	0.369	0.339	0.312	0.287	0.265	0.243	0.224	0.206
Levellised Tariff	Rs/kWh										

Determination of tariff for Hydel plant 5 n

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.55
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	70.07	72.76	75.56	78.46	81.47	84.60	87.85	91.22	94.72	98.36
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	2.80	2.89	2.59	3.09	3.19	3.29	3.40	3.51	3.63	3.75
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	124.33	127.11	129.59	132.99	136.11	139.34	142.70	146.18	149.81	153.56
Tariff	Rs/kWh	4.80	4.91	5.02	5.14	5.26	5.38	5.51	5.65	5.79	5.93

O & M expenses	Rs/kWh	2.71	2.81	2.92	3.03	3.15	3.27	3.39	3.52	3.66	3.80
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.15
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	4.80	4.91	5.02	5.14	5.26	5.38	5.51	5.65	5.79	5.93
Discount Factor		0.190	0.175	0.161	0.148	0.136	0.125	0.115	0.106	0.098	0.090
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant 5A

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.55	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	102.14	106.06	110.13	114.36	118.75	123.31	128.05	132.97	138.07	143.37
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	3.88	4.01	4.15	4.29	4.44	4.59	4.75	4.91	5.09	5.26
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	157.47	161.52	165.73	170.10	174.64	179.35	184.25	189.33	194.61	200.09
Tariff	Rs/kWh	6.08	6.24	6.40	6.57	6.75	6.93	7.12	7.31	7.52	7.73

O & M expenses	Rs/kWh	3.95	4.10	4.25	4.42	4.59	4.76	4.95	5.14	5.33	5.54
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.15	0.15	0.16	0.17	0.17	0.18	0.18	0.19	0.20	0.20
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	6.08	6.24	6.40	6.57	6.75	6.93	7.12	7.31	7.52	7.73
Discount Factor		0.083	0.076	0.070	0.064	0.059	0.055	0.050	0.046	0.043	0.039
Levelled Tariff	Rs/kWh										

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Parameters for determination of tariff for Hydel plant above 10 MW to 25 MW

S	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	8.820
		Power Plant Cost		Rs. Cr	8.82
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.174
			Total equity amount	Rs Cr.	2.646
		Debt component	Loan amount	Rs Cr	6.174
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	2.646
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	8.67%
			Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.27
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	10.50%

Determination of tariff for Hydel plant above 10 MW to 25 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	ML	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
C & M expenses	Rs. lakh	27.24	28.29	29.37	30.50	31.67	32.89	34.15	35.46	36.82	38.24
Depreciation	Rs. lakh	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19
Interest on term loan	Rs. lakh	53.71	50.01	46.31	42.60	38.90	35.19	31.49	27.78	24.08	20.37
Interest on Working Capital	Rs. lakh	2.14	2.15	2.15	2.15	2.16	2.17	2.18	2.19	2.20	2.22
Return on Equity	Rs. lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs. lakh	168.70	166.04	163.43	160.86	158.33	155.85	153.42	151.04	148.71	146.43
Tariff	Rs./kWh	6.52	6.41	6.31	6.21	6.12	6.02	5.93	5.83	5.74	5.66

O & M expenses	Rs./kWh	1.05	1.09	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48
Depreciation	Rs./kWh	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
Interest on term loan	Rs./kWh	2.08	1.93	1.79	1.65	1.50	1.36	1.22	1.07	0.93	0.79
Interest on Working Capital	Rs./kWh	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Return on Equity	Rs./kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs./kWh	6.52	6.41	6.31	6.21	6.12	6.02	5.93	5.83	5.74	5.66
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473
Levelised Tariff	Rs./kWh	5.65									

Determination of tariff for Hydel plant ab.

13

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	39.71	41.23	42.81	44.46	46.16	47.94	49.78	51.69	53.67	55.74
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	16.67	12.97	9.26	5.56	1.85	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.23	2.25	2.27	2.30	2.32	2.06	2.12	2.19	2.25	2.32
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	144.21	142.05	139.95	137.91	135.94	101.45	103.35	105.33	107.38	109.51
Tariff	Rs/kWh	5.57	5.49	5.41	5.33	5.25	3.92	3.99	4.07	4.15	4.23

O & M expenses	Rs/kWh	1.53	1.59	1.65	1.72	1.78	1.35	1.92	2.00	2.07	2.15
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	0.64	0.50	0.35	0.21	0.07	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	5.57	5.49	5.41	5.33	5.25	3.92	3.99	4.07	4.15	4.23
Discount Factor		0.436	0.401	0.369	0.339	0.312	0.287	0.265	0.243	0.224	0.206
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant ab

(14)

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity/	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	ML	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	57.88	60.10	62.41	64.80	67.29	69.88	72.56	75.34	78.24	81.24
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	2.40	2.47	2.55	2.63	2.71	2.80	2.89	2.98	3.08	3.18
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	111.72	114.02	116.40	118.88	121.45	124.12	126.90	129.78	132.77	135.87
Tariff	Rs/kWh	4.32	4.40	4.50	4.59	4.69	4.80	4.90	5.01	5.13	5.25

O & M expenses	Rs/kWh	2.24	2.32	2.41	2.50	2.60	2.70	2.80	2.91	3.02	3.14
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.12	0.12	0.12
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	4.32	4.40	4.50	4.59	4.69	4.80	4.90	5.01	5.13	5.25
Discount Factor		0.190	0.175	0.161	0.148	0.136	0.125	0.115	0.106	0.098	0.090
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant ab.

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	84.36	87.60	90.97	94.46	98.09	101.85	105.76	109.82	114.04	118.42
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	3.28	3.39	3.51	3.62	3.74	3.87	4.00	4.14	4.28	4.43
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	139.10	142.44	145.92	149.53	153.28	157.17	161.21	165.41	169.77	174.30
Tariff	Rs/kWh	5.37	5.50	5.64	5.78	5.92	6.07	6.23	6.39	6.56	6.73

O & M expenses	Rs/kWh	3.26	3.38	3.51	3.65	3.79	3.93	4.09	4.24	4.41	4.57
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.17	0.17
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	5.37	5.50	5.64	5.78	5.92	6.07	6.23	6.39	6.56	6.73
Discount Factor		0.083	0.076	0.070	0.064	0.059	0.055	0.050	0.046	0.043	0.039
Levelled Tariff	Rs/kWh										

Parameters for determination of tariff for Mini/Micro Hydel plant (upto 2 MW)

Annexure: 1D

16

S No	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	9.702
		Power Plant Cost		Rs. Cr	9.702
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.7914
			Total equity amount	Rs Cr.	2.9106
		Debt component	Loan amount	Rs Cr	6.7914
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	2.9106
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	8.67%
			Income Tax	%	29.12%
		Depreciation	MAT Rate	%	16.59%
			Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.38
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	10.50%

Determination of tariff for Mini/Micro Hydel plant (upto 2 MW)

(17)

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	37.61	39.05	40.55	42.11	43.73	45.41	47.15	48.96	50.84	52.79
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	59.09	55.01	50.94	46.86	42.79	38.71	34.64	30.56	26.49	22.41
Interest on Working Capital	Rs Lakh	2.61	2.63	2.64	2.66	2.68	2.70	2.72	2.74	2.77	2.80
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	193.47	190.85	188.29	185.79	183.35	180.97	178.67	176.43	174.26	172.17
Tariff	Rs/kWh	7.47	7.37	7.27	7.18	7.08	6.99	6.90	6.82	6.73	6.65

O & M expenses	Rs/kWh	1.45	1.51	1.57	1.63	1.69	1.75	1.82	1.89	1.96	2.04
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on term loan	Rs/kWh	2.28	2.13	1.97	1.81	1.65	1.50	1.34	1.18	1.02	0.87
Interest on Working Capital	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.47	7.37	7.27	7.18	7.08	6.99	6.90	6.82	6.73	6.65
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473
Levelled Tariff	Rs/kWh	7.19									

Determination of tariff for Mini/Micro Hy

18

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	54.82	56.93	59.11	61.38	63.74	66.19	68.73	71.37	74.11	76.95
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	18.34	14.26	10.19	6.11	2.04	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.83	2.87	2.90	2.94	2.99	2.72	2.80	2.89	2.99	3.08
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	170.15	168.22	166.36	164.60	162.92	125.50	128.13	130.86	133.69	136.63
Tariff	Rs/kWh	6.57	6.50	6.43	6.36	6.29	4.85	4.95	5.06	5.16	5.28

O & M expenses	Rs/kWh	2.12	2.20	2.28	2.37	2.46	2.56	2.66	2.76	2.86	2.97
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	0.71	0.55	0.39	0.24	0.08	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.11	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.12	0.12
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	6.57	6.50	6.43	6.36	6.29	4.85	4.95	5.06	5.16	5.28
Discount Factor		0.436	0.401	0.369	0.339	0.312	0.287	0.265	0.243	0.224	0.206
Levelised Tariff	Rs/kWh										

Determination of tariff for Mini/Micro Hy

(19)

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
C & M expenses	Rs Lakh	79.91	82.98	86.16	89.47	92.91	96.48	100.18	104.03	108.02	112.17
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	3.18	3.28	3.39	3.50	3.62	3.74	3.86	3.99	4.12	4.26
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	139.68	142.85	146.15	149.57	153.12	156.81	160.64	164.61	168.74	173.03
Tariff	Rs/kWh	5.40	5.52	5.65	5.78	5.92	6.06	6.21	6.36	6.52	6.68

O & M expenses	Rs/kWh	3.09	3.21	3.33	3.46	3.59	3.73	3.87	4.02	4.17	4.33
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	5.40	5.52	5.65	5.78	5.92	6.06	6.21	6.36	6.52	6.68
Discount Factor		0.190	0.175	0.161	0.148	0.136	0.125	0.115	0.106	0.098	0.090
Levelled Tariff	Rs/kWh										

Determination of tariff for Mini/Micro Hy

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	116.48	120.95	125.60	130.42	135.43	140.63	146.03	151.63	157.46	163.50
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	4.41	4.56	4.71	4.87	5.04	5.22	5.40	5.59	5.78	5.98
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	177.48	182.10	186.90	191.89	197.06	202.44	208.02	213.81	219.83	226.08
Tariff	Rs/kWh	6.86	7.03	7.22	7.41	7.61	7.82	8.04	8.26	8.49	8.73

O & M expenses	Rs/kWh	4.50	4.67	4.85	5.04	5.23	5.43	5.64	5.86	6.08	6.32
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.17	0.18	0.18	0.19	0.19	0.20	0.21	0.22	0.22	0.23
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	6.86	7.03	7.22	7.41	7.61	7.82	8.04	8.26	8.49	8.73
Discount Factor		0.083	0.076	0.070	0.064	0.059	0.055	0.050	0.046	0.043	0.039
Levelled Tariff	Rs/kWh										

Energy Charge for FY 2022-23

Annexure 2

21

Particulars	Unit	Parameters
SHR	kCal/kWh	4000
GCV	kCal/kg	3100
Aux. Cons. Factor	%	10%
Base Price	Rs./MT	3922.00
Variable Cost	Rs./kWh	5.62

As per the regulations energy charges is determined following the formula as under:-

$$\text{Energy charges} = (\text{SHR}/\text{GCV}) * [1/(1-\text{auxiliary consumption})] * \text{biomass price}$$

22

Parameters for determination of tariff for Co-Generation plants					
S. No.	Assumption Head	Sub-head	Sub-head 2	Unit	Values
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	38%
			Auxiliary consumption	%	8.5%
			Useful Life	Years	25
			Gross Generation	MU	3.3288
			Auxiliary consumption	MU	0.282948
			Net generation	MU	3.045852
2	Project cost	Capital cost/MW		Rs Cr/MW	4.92
		Power Plant Cost		Rs. Cr	4.92
3	Financial parameters	Debt/equity	Tariff period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	3.44
			Total equity amount	Rs Cr.	1.48
		Debt component	Loan amount	Rs Cr	3.44
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	1.476
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	8.67%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.27
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Bagasse Stock	Months	4
			Receivable	Months	1
			Interest on WC	%	10.50%
6	Fuel related assumptions		Heat rate	KCal/kWh	3600
			Calorific value of bagasse	KCal/kg	2250
			Base price of bagasse	Rs/MT	2507.0
			bagasse price escalation factor	%	5%

Determination of tariff for Co-Generation plants

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Particulars	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Variable Cost	Rs Lakh	133.52	140.20	147.21	154.57	162.30	170.42	178.94	187.88	197.28	207.14	217.50	228.37	239.79	251.78	264.37	277.59	291.47
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
O & M expenses	Rs Lakh	27.24	28.29	29.37	30.50	31.67	32.89	34.15	35.46	36.82	38.24	39.71	41.23	42.81	44.46	46.16	47.94	49.78
Depreciation	Rs Lakh	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98
Interest on term loan	Rs Lakh	29.96	27.90	25.83	23.76	21.70	19.63	17.56	15.50	13.43	11.37	9.30	7.23	5.17	3.10	1.03	0.00	0.00
Interest on Working Capital	Rs Lakh	7.49	7.80	8.13	8.48	8.84	9.22	9.62	10.04	10.48	10.95	11.43	11.95	12.49	13.05	13.65	14.17	14.84
Return on Equity	Rs Lakh	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77
Total Fixed Cost	Rs Lakh	112.45	111.74	111.08	110.49	109.96	109.49	109.08	108.75	108.49	108.30	108.19	108.16	108.22	108.36	108.60	96.69	99.21
Tariff	Rs/kWh	3.69	3.67	3.65	3.63	3.61	3.59	3.58	3.57	3.56	3.56	3.55	3.55	3.55	3.56	3.57	3.17	3.26
O & M expenses	Rs/kWh	0.89	0.93	0.96	1.00	1.04	1.08	1.12	1.16	1.21	1.26	1.30	1.35	1.41	1.46	1.52	1.57	1.63
Depreciation	Rs/kWh	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Interest on term loan	Rs/kWh	0.98	0.92	0.85	0.78	0.71	0.64	0.58	0.51	0.44	0.37	0.31	0.24	0.17	0.10	0.03	0.00	0.32
Interest on Working Capital	Rs/kWh	0.25	0.26	0.27	0.28	0.29	0.30	0.32	0.33	0.34	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49
Return on Equity	Rs/kWh	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Total Fixed Cost	Rs/kWh	3.69	3.67	3.65	3.63	3.61	3.59	3.58	3.57	3.56	3.56	3.55	3.55	3.55	3.56	3.57	3.17	3.26
Variable COG	Rs/kWh	4.38	4.60	4.83	5.07	5.33	5.59	5.87	6.17	6.48	6.80	7.14	7.50	7.87	8.27	8.68	9.11	9.57
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473	0.436	0.401	0.369	0.339	0.312	0.287	0.265
Levelled Tariff	Rs/kWh	3.59																

Determination of tariff for Co-Ge

Particulars	Year	18	19	20	21	22	23	24	25
Installed Capacity	MW	1	1	1	1	1	1	1	1
Net Power Generation	MU	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Variable Cost	Rs Lakh	306.04	321.34	337.41	354.28	372.00	390.59	410.12	430.63
Fixed Cost	Year	18	19	20	20	20	20	20	20
O & M expenses	Rs Lakh	51.69	53.67	55.74	57.88	60.10	62.41	64.80	67.29
Depreciation	Rs Lakh	9.82	9.82	9.82	9.82	9.32	9.82	9.82	9.82
Interest on term loan	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Cap	Rs Lakh	15.55	16.29	17.07	17.88	18.74	19.64	20.58	21.57
Return on Equity	Rs Lakh	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77
Total Fixed Cost	Rs Lakh	101.83	104.55	107.39	110.35	113.43	116.63	119.97	123.45
Tariff	Rs/kWh	3.34	3.43	3.53	3.62	3.72	3.83	3.94	4.05

O & M expenses	Rs/kWh	1.70	1.76	1.83	1.90	1.97	2.05	2.13	2.21
Depreciation	Rs/kWh	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Cap	Rs/kWh	0.51	0.53	0.56	0.59	0.62	0.64	0.68	0.71
Return on Equity	Rs/kWh	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Total Fixed Cost	Rs/kWh	3.34	3.43	3.53	3.62	3.72	3.83	3.94	4.05
Veriable COG	Rs/kWh	10.05	10.55	11.08	11.63	12.21	12.82	13.47	14.14
Discount Factor		0.243	0.224	0.206	0.190	0.175	0.161	0.148	0.136
Levelled Tariff	Rs/kWh								

Parameters for determination of tariff for Solar PV plant (0.5 MW to 2 MW)

Annexure: 4

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S No	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	19%
			Auxiliary consumption	%	0.25%
			Useful Life	Years	25
			Gross Generation	MU	1.6644
			Auxiliary consumption	MU	0.004161
			Net generation	MU	1.660239
2	Project cost	Capital cost/MW		Rs Cr/MW	4.50
		Power Plant Cost		Rs. Cr	4.5
3	Financial parameters	Debt/equity	Tariff period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	3.15
			Total equity amount	Rs Cr.	1.35
		Debt component	Loan amount	Rs Cr	3.15
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	1.35
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	8.67%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate (first 10 years)	%	16.59%
		Depreciation	Depreciation rate for first 13 years	%	4.67%
			Depreciation rate 14 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.081
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Months	1
			Interest on WC	%	10.50%

Determination of tariff for Solar PV plant (above 0.5 MW to 2 MW)

2c

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	8.12	8.43	8.76	9.09	9.44	9.80	10.18	10.57	10.98	11.40
Depreciation	Rs Lakh	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02
Interest on term loan	Rs Lakh	27.41	25.52	23.63	21.74	19.85	17.96	16.07	14.18	12.29	10.40
Interest on Working Capital	Rs Lakh	0.90	0.89	0.89	0.88	0.88	0.87	0.87	0.87	0.86	0.86
Return on Equity	Rs Lakh	22.66	22.66	22.66	22.66	22.66	22.66	22.65	22.66	22.66	22.66
Total Fixed Cost	Rs Lakh	80.10	78.51	75.94	75.38	73.84	72.30	70.73	69.28	67.80	66.33
Tariff	Rs/kWh	4.82	4.73	4.63	4.54	4.45	4.36	4.25	4.17	4.08	3.99

O & M expenses	Rs/kWh	0.49	0.51	0.53	0.55	0.57	0.59	0.61	0.64	0.66	0.69
Depreciation	Rs/kWh	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Interest on term loan	Rs/kWh	1.65	1.54	1.42	1.31	1.20	1.08	0.97	0.85	0.74	0.63
Interest on Working Capital	Rs/kWh	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	4.82	4.73	4.63	4.54	4.45	4.36	4.26	4.17	4.08	3.99
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473
Levelled Tariff	Rs/kWh	4.07									

Determination of tariff for So ar PV plant

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generator	MU	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakhs	11.84	12.29	12.76	13.25	13.76	14.29	14.84	15.41	16.00	16.61
Depreciation	Rs Lakhs	21.02	21.02	21.02	21.02	21.02	8.98	8.98	8.98	8.98	8.98
Interest on term loan	Rs Lakhs	8.51	6.62	4.73	2.84	0.95	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakhs	0.86	0.86	0.86	0.86	0.86	0.76	0.78	0.80	0.82	0.84
Return on Equity	Rs Lakhs	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66
Total Fixed Cost	Rs Lakhs	64.87	63.44	62.02	60.62	59.24	46.68	47.25	47.84	48.45	49.09
Tariff	Rs/kWh	3.91	3.82	3.74	3.65	3.57	2.81	2.85	2.88	2.92	2.96

O & M expenses	Rs/kWh	0.71	0.74	0.77	0.80	0.83	0.86	0.89	0.93	0.96	1.00
Depreciation	Rs/kWh	1.27	1.27	1.27	1.27	1.27	0.54	0.54	0.54	0.54	0.54
Interest on term loan	Rs/kWh	0.51	0.40	0.28	0.17	0.06	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	3.91	3.82	3.74	3.65	3.57	2.81	2.85	2.88	2.92	2.96
Discount Factor		0.436	0.401	0.369	0.339	0.312	0.287	0.265	0.243	0.224	0.206
Levelled Tariff	Rs/kWh										

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Determination of tariff for Solar PV plant

Particulars	Year	21	22	23	24	25
Installed Capacity	MW	1	1	1	1	1
Net Power Generation	MU	1.66	1.66	1.66	1.66	1.66
Fixed Cost	Year	21	22	23	24	24
O & M expenses	Rs Lakh	17.25	17.91	18.60	19.32	20.06
Depreciation	Rs Lakh	8.98	8.98	8.98	8.98	8.98
Interest on term loan	Rs Lakh	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	0.86	0.88	0.90	0.93	0.95
Return on Equity	Rs Lakh	22.66	22.66	22.66	22.66	22.66
Total Fixed Cost	Rs Lakh	49.75	50.43	51.14	51.88	52.65
Tariff	Rs/kWh	3.00	3.04	3.08	3.12	3.17

O & M expenses	Rs/kWh	1.04	1.08	1.12	1.16	1.21
Depreciation	Rs/kWh	0.54	0.54	0.54	0.54	0.54
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.05	0.05	0.05	0.06	0.06
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	3.00	3.04	3.08	3.12	3.17
Discount Factor		0.190	0.175	0.151	0.148	0.136
Levelled Tariff	Rs/kWh					

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Parameters for determination of tariff for Co-Generation plants					
S No	Assumption Head	Sub-head	Sub-head 2	Unit	Values
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	90%
			Auxiliary consumption	%	12.0%
			Useful Life	Years	25
			Gross Generation	MU	7.884
			Auxiliary consumption	MU	0.94608
			Net generation	MU	6.93792
2	Project cost	Capital cost/MW		Rs Cr/MW	11.86
		Power Plant Cost		Rs. Cr	11.86
3	Financial parameters	Debt/equity	Tariff period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	8.30
			Total equity amount	Rs Cr.	3.56
		Debt component	Loan amount	Rs Cr	8.30
			Repayment Period	Year	15
			Interest rate	%	9.00%
		Equity Component	Equity Amount	Rs Cr	3.558
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	8.67%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.66
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Bagasse Stock	Months	4
			Receivable	Months	1
			Interest on WC	%	10.50%
6	Fuel related assumptions		Heat rate	KCal/kWh	#REF!
			Calorific value of bagasse	KCal/kg	#REF!
			Base price of bagasse	Rs/MT	#REF!
			bagasse price escalation factor	%	5%

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Determination of tariff for Co-Generation plants

Particulars	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	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
Variable Cost	Rs Lakh	473.04	496.69	521.53	547.60	574.98	603.73	633.92	665.61	698.90	733.84	770.53	809.06	849.51	891.99	936.59	983.42	#####
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
O & M expenses	Rs Lakh	66.10	68.64	71.27	74.01	76.85	79.80	82.87	86.05	89.36	92.79	96.35	100.05	103.89	107.88	112.02	116.32	120.79
Depreciation	Rs Lakh	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39
Interest on term loan	Rs Lakh	72.23	67.25	62.27	57.28	52.30	47.32	42.34	37.36	32.38	27.40	22.42	17.43	12.45	7.47	2.49	0.00	0.00
Interest on Working Cap	Rs Lakh	24.75	25.83	26.97	28.17	29.43	30.76	32.15	33.61	35.15	36.76	38.45	40.23	42.11	44.07	46.13	48.04	50.36
Return on Equity	Rs Lakh	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72
Total Fixed Cost	Rs Lakh	278.18	276.82	275.62	274.57	273.69	272.99	272.46	272.12	271.98	272.05	272.32	272.82	273.55	274.53	275.75	247.75	254.53
Tariff	Rs/kWh	4.01	3.99	3.97	3.96	3.94	3.93	3.93	3.92	3.92	3.92	3.93	3.93	3.94	3.96	3.97	3.57	3.67
O & M expenses	Rs/kWh	0.95	0.99	1.03	1.07	1.11	1.15	1.19	1.24	1.29	1.34	1.39	1.44	1.50	1.55	1.61	1.68	1.74
Depreciation	Rs/kWh	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Interest on term loan	Rs/kWh	1.04	0.97	0.90	0.83	0.75	0.68	0.61	0.54	0.47	0.39	0.32	0.25	0.18	0.11	0.04	0.00	0.34
Interest on Working Cap	Rs/kWh	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.64	0.66	0.69	0.73
Return on Equity	Rs/kWh	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Total Fixed Cost	Rs/kWh	4.01	3.99	3.97	3.96	3.94	3.93	3.93	3.92	3.92	3.92	3.93	3.93	3.94	3.96	3.97	3.57	3.67
Variable COG	Rs/kWh	6.82	7.16	7.52	7.89	8.29	8.70	9.14	9.59	10.07	10.58	11.11	11.66	12.24	12.86	13.50	14.17	14.88
Discount Factor		1	0.920	0.847	0.779	0.717	0.660	0.607	0.559	0.514	0.473	0.436	0.401	0.369	0.339	0.312	0.287	0.265
Levelled Tariff	Rs/kWh	3.96																

Determination of tariff for Co-Ge

Particulars	Year	18	19	20
Installed Capacity	MW	1	1	1
Net Power Generation	MU	6.94	6.94	6.94
Variable Cost	Rs Lakh	1084.22	1138.43	1195.35
Fixed Cost	Year	18	19	20
O & M expenses	Rs Lakh	125.43	130.25	135.25
Depreciation	Rs Lakh	23.66	23.66	23.66
Interest on term loan	Rs Lakh	0.00	0.00	0.00
Interest on Working Cap	Rs Lakh	52.80	55.35	58.03
Return on Equity	Rs Lakh	59.72	59.72	59.72
Total Fixed Cost	Rs Lakh	261.61	268.98	276.66
Tariff	Rs/kWh	3.77	3.88	3.99

O & M expenses	Rs/kWh	1.81	1.88	1.95
Depreciation	Rs/kWh	0.34	0.34	0.34
Interest on term loan	Rs/kWh	0.00	0.00	0.00
Interest on Working Cap	Rs/kWh	0.76	0.80	0.84
Return on Equity	Rs/kWh	0.86	0.86	0.86
Total Fixed Cost	Rs/kWh	3.77	3.88	3.99
Variable COG	Rs/kWh	15.63	16.41	17.23
Discount Factor		0.243	0.224	0.206
Levelised Tariff	Rs/kWh			

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Parameters for determination of tariff for Hydel plant less than 5 MW

Sr	Assumption Head	Sub head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	9.702
		Power Plant Cost		Rs. Cr	9.702
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.7914
			Total equity amount	Rs Cr.	2.9106
		Debt component	Loan amount	Rs Cr	6.7914
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	2.9106
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	9.29%
			Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.39
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	11.75%

Determination of tariff for Hydel plant less than 5 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	39.05	40.55	42.11	43.72	45.40	47.15	48.96	50.84	52.79	54.82
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	67.29	62.65	58.01	53.37	48.73	44.09	39.45	34.81	30.17	25.52
Interest on Working Capital	Rs Lakh	3.06	3.07	3.09	3.10	3.12	3.14	3.16	3.19	3.21	3.24
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	203.57	200.43	197.36	194.35	191.41	188.53	185.72	182.99	180.33	177.74
Tariff	Rs/kWh	7.86	7.74	7.62	7.51	7.39	7.28	7.17	7.07	6.97	6.87

O & M expenses	Rs/kWh	1.51	1.57	1.63	1.69	1.75	1.82	1.89	1.96	2.04	2.12
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on term loan	Rs/kWh	2.60	2.42	2.24	2.06	1.88	1.70	1.52	1.34	1.17	0.99
Interest on Working Capital	Rs/kWh	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.86	7.74	7.62	7.51	7.39	7.28	7.17	7.07	6.97	6.87
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450
Levelled Tariff	Rs/kWh	6.96									

Determination of tariff for Hydel plant les

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Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	56.92	59.11	61.38	63.73	66.18	68.72	71.36	74.10	76.95	79.90
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	20.88	16.24	11.50	6.96	2.32	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	3.28	3.31	3.35	3.39	3.44	3.14	3.24	3.34	3.45	3.56
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	175.24	172.82	170.49	168.25	166.10	128.46	131.20	134.04	136.99	140.06
Tariff	Rs/kWh	6.77	6.68	6.59	6.50	6.42	4.96	5.07	5.18	5.29	5.41

O & M expenses	Rs/kWh	2.20	2.28	2.37	2.46	2.56	2.65	2.76	2.86	2.97	3.09
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	0.81	0.63	0.45	0.27	0.09	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.13	0.14
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.39	1.89	1.89
Total CoG	Rs/kWh	6.77	6.68	6.59	6.50	6.42	4.96	5.07	5.18	5.29	5.41
Discount Factor		0.411	0.377	0.345	0.315	0.288	0.264	0.242	0.221	0.202	0.185
Levelled Tariff	Rs/kWh										

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Determination of tariff for Hydel plant les

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	NW	1	1	1	1	1	1	-	1	1	1
Net Power Generation	NW	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	82.97	86.15	89.46	92.90	96.47	100.17	104.02	108.01	112.16	116.47
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	3.68	3.80	3.92	4.05	4.18	4.32	4.47	4.62	4.77	4.94
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	143.24	146.55	149.98	153.54	157.24	161.09	165.08	169.22	173.53	178.00
Tariff	Rs/kWh	5.53	5.66	5.79	5.93	6.07	6.22	6.38	6.54	6.70	6.88

O & M expenses	Rs/kWh	3.21	3.33	3.46	3.59	3.73	3.87	4.02	4.17	4.33	4.50
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.39	1.89	1.89	1.89
Total CoG	Rs/kWh	5.53	5.66	5.79	5.93	6.07	6.22	6.38	6.54	6.70	6.88
Discount Factor		0.169	0.155	0.142	0.130	0.119	0.109	0.099	0.091	0.083	0.076
Levelling Tariff	Rs/kWh										

Determination of tariff for Hydel plant les

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	120.94	125.58	130.40	135.41	140.61	146.01	151.62	157.44	163.49	169.76
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	5.10	5.28	5.46	5.65	5.84	6.05	6.26	6.48	6.70	6.94
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	182.64	187.45	192.46	197.65	203.05	208.65	214.47	220.51	226.78	233.30
Tariff	Rs/kWh	7.06	7.24	7.43	7.64	7.84	8.06	8.29	8.52	8.76	9.01

O & M expenses	Rs/kWh	4.67	4.85	5.04	5.23	5.43	5.64	5.86	6.08	6.32	6.56
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.20	0.20	0.21	0.22	0.23	0.23	0.24	0.25	0.26	0.27
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.06	7.24	7.43	7.64	7.84	8.06	8.29	8.52	8.76	9.01
Discount Factor		0.070	0.064	0.058	0.053	0.049	0.045	0.041	0.037	0.034	0.031
Levelled Tariff	Rs/kWh										

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Parameters for determination of tariff for Hydel plant 5 MW to 10 MW

Sr	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	8.820
		Power Plant Cost		Rs. Cr	8.82
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.174
			Total equity amount	Rs Cr.	2.646
		Debt component	Loan amount	Rs Cr	6.174
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	2.646
			RoE	%	16.78%
			RoE Period	Year	40
			Discount Rate	%	9.29%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.34
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	11.75%

Determination of tariff for Hydel plant 5 MW to 10 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	34.24	35.55	36.92	38.34	39.81	41.34	42.93	44.57	46.29	48.06
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19
Interest on term loan	Rs Lakh	61.17	56.96	52.74	48.52	44.30	40.08	35.86	31.64	27.42	23.20
Interest on Working Capital	Rs Lakh	2.74	2.75	2.76	2.77	2.78	2.80	2.81	2.83	2.86	2.88
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	183.75	180.86	178.01	175.22	172.49	169.81	167.20	164.65	162.17	159.75
Tariff	Rs/kWh	7.10	6.99	6.88	6.77	6.66	6.56	6.46	6.36	6.26	6.17

O & M expenses	Rs/kWh	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
Interest on term loan	Rs/kWh	2.36	2.20	2.04	1.87	1.71	1.55	1.39	1.22	1.06	0.90
Interest on Working Capital	Rs/kWh	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	7.10	6.99	6.88	6.77	6.66	6.56	6.46	6.36	6.26	6.17
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450
Levelled Tariff	Rs/kWh	6.25									

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Determination of tariff for Hydel plant 5A

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	49.91	51.83	53.82	55.88	58.03	60.26	62.57	64.97	67.47	70.06
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	18.99	14.77	10.55	6.33	2.11	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.91	2.94	2.97	3.01	3.05	2.77	2.86	2.95	3.05	3.14
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	157.40	155.13	152.94	150.82	148.79	114.48	116.88	119.37	121.53	124.65
Tariff	Rs/kWh	6.08	5.99	5.91	5.83	5.75	4.42	4.52	4.61	4.71	4.82

O & M expenses	Rs/kWh	1.93	2.00	2.08	2.16	2.24	2.33	2.42	2.51	2.61	2.71
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	0.73	0.57	0.41	0.24	0.08	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.11	0.11	0.11	0.12	0.12	0.11	0.11	0.11	0.12	0.12
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	6.08	5.99	5.91	5.83	5.75	4.42	4.52	4.61	4.71	4.82
Discount Factor		0.411	0.377	0.345	0.315	0.288	0.264	0.242	0.221	0.200	0.185
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant 5 n

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	72.75	75.54	78.44	81.46	84.58	87.83	91.20	94.71	98.34	102.12
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	3.24	3.35	3.46	3.57	3.69	3.81	3.94	4.07	4.20	4.35
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	127.44	130.34	133.35	136.47	139.72	143.09	146.59	150.22	154.00	157.91
Tariff	Rs/kWh	4.92	5.04	5.15	5.27	5.40	5.53	5.66	5.80	5.95	6.10

O & M expenses	Rs/kWh	2.81	2.92	3.05	3.15	3.27	3.39	3.52	3.66	3.80	3.95
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.17
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	4.92	5.04	5.15	5.27	5.40	5.53	5.66	5.80	5.95	6.10
Discount Factor		0.169	0.155	0.142	0.130	0.119	0.109	0.099	0.091	0.083	0.076
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant 5A

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW*	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs/LeKh	106.04	110.11	114.34	118.73	123.29	128.03	132.94	138.05	143.35	148.85
Depreciator	Rs/LeKh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs/LeKh	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/LeKh	4.49	4.65	4.81	4.97	5.14	5.32	5.50	5.70	5.90	6.10
Return on Equity	Rs/LeKh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs/LeKh	161.98	166.21	170.60	175.15	179.88	184.79	189.90	195.19	200.69	205.40
Tariff	Rs/kWh	6.26	6.42	6.59	6.77	6.95	7.14	7.34	7.54	7.75	7.97

O & M expenses	Rs/kWh	4.10	4.25	4.42	4.59	4.76	4.95	5.14	5.33	5.54	5.75
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.17	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.23	0.24
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	6.26	6.42	6.59	6.77	6.95	7.14	7.34	7.54	7.75	7.97
Discount Factor		0.070	0.064	0.058	0.053	0.049	0.045	0.041	0.037	0.034	0.031
Levelled Tariff	Rs/kWh										

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Parameters for determination of tariff for Hydel plant above 10 MW to 25 MW					
S	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	8.820
		Power Plant Cost		Rs. Cr	8.82
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.174
			Total equity amount	Rs Cr.	2.646
		Debt component	Loan amount	Rs Cr	6.174
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	2.646
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	9.29%
			Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.28
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	11.75%

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Determination of tariff for Hydel plant above 10 MW to 25 MW

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	28.29	29.38	30.50	31.68	32.89	34.16	35.47	36.83	38.24	39.71
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19	41.19
Interest on term loan	Rs Lakh	61.17	56.96	52.74	48.52	44.30	40.08	35.86	31.64	27.42	23.20
Interest on Working Capital	Rs Lakh	2.51	2.51	2.51	2.52	2.52	2.53	2.53	2.54	2.55	2.57
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	177.58	174.45	171.36	168.31	165.31	162.36	159.46	156.61	153.82	151.08
Tariff	Rs/kWh	6.86	6.74	6.62	6.50	6.39	6.27	6.16	6.05	5.94	5.84
O & M expenses	Rs/kWh	1.09	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48	1.53
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
Interest on term loan	Rs/kWh	2.36	2.20	2.04	1.87	1.71	1.55	1.39	1.22	1.06	0.90
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	6.86	6.74	6.62	6.50	6.39	6.27	6.16	6.05	5.94	5.84
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450
Levelled Tariff	Rs/kWh		5.89								

Determination of tariff for Hydel plant ab.

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Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	41.24	42.82	44.46	46.17	47.94	49.79	51.70	53.68	55.74	57.88
Depreciation	Rs Lakh	41.19	41.19	41.19	41.19	41.19	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	18.99	14.77	10.55	6.33	2.11	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	2.58	2.60	2.62	2.64	2.67	2.38	2.45	2.53	2.60	2.68
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	148.41	145.79	143.23	140.74	138.32	103.61	105.60	107.66	109.80	112.02
Tariff	Rs/kWh	5.73	5.63	5.53	5.44	5.34	4.00	4.08	4.16	4.24	4.33

O & M expenses	Rs/kWh	1.59	1.65	1.72	1.78	1.85	1.92	2.00	2.07	2.15	2.24
Depreciation	Rs/kWh	1.59	1.59	1.59	1.59	1.59	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	0.73	0.57	0.41	0.24	0.08	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.10	0.10	0.10
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	5.73	5.63	5.53	5.44	5.34	4.00	4.08	4.16	4.24	4.33
Discount Factor		0.411	0.377	0.345	0.315	0.288	0.264	0.242	0.221	0.202	0.185
Levelled Tariff	Rs/kWh										

Determination of tariff for Hydel plant ab.

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	60.11	62.42	64.81	67.30	69.89	72.57	75.36	78.25	81.25	84.37
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	2.77	2.85	2.94	3.04	3.13	3.24	3.34	3.45	3.56	3.68
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	114.32	116.72	119.21	121.79	124.47	127.25	130.15	133.15	136.27	139.50
Tariff	Rs/kWh	4.42	4.51	4.61	4.70	4.81	4.92	5.03	5.14	5.26	5.39
O & M expenses	Rs/kWh	2.32	2.41	2.50	2.60	2.70	2.80	2.91	3.02	3.14	3.26
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.11	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.14
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	4.42	4.51	4.61	4.70	4.81	4.92	5.03	5.14	5.26	5.39
Discount Factor		0.169	0.155	0.142	0.130	0.119	0.109	0.095	0.091	0.083	0.076
Levelled Tariff	Rs/kWh										

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Determination of tariff for Hydel plant ab.

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	35	35	35	35	35
O & M expenses	Rs Lakh	87.61	90.98	94.47	98.10	101.87	105.78	109.84	114.06	118.44	122.99
Depreciation	Rs Lakh	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh	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	3.80	3.93	4.06	4.19	4.34	4.48	4.64	4.79	4.96	5.13
Return on Equity	Rs Lakh	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41	44.41
Total Fixed Cost	Rs Lakh	142.86	146.35	149.98	153.74	157.65	161.71	165.93	170.30	174.85	179.57
Tariff	Rs/kWh	5.52	5.65	5.79	5.94	6.09	6.25	6.41	6.58	6.75	6.94
O & M expenses	Rs/kWh	3.38	3.51	3.65	3.79	3.94	4.09	4.24	4.41	4.58	4.75
Depreciation	Rs/kWh	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Interest on term loan	Rs/kWh	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/kWh	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.19	0.19	0.20
Return on Equity	Rs/kWh	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Total CoG	Rs/kWh	5.52	5.65	5.79	5.94	6.09	6.25	6.41	6.58	6.75	6.94
Discount Factor		0.070	0.064	0.058	0.053	0.049	0.045	0.041	0.037	0.034	0.031
Levelled Tariff	Rs/kWh										

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Parameters for determination of tariff for Mini/Micro Hydel plant (upto 2 MW)					
S	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	30%
			Auxiliary consumption	%	1.5%
			Useful Life	Years	40
			Gross Generation	MU	2.628
			Auxiliary consumption	MU	0.03942
			Net generation	MU	2.58858
2	Project cost	Capital cost/MW		Rs Cr/MW	9.702
		Power Plant Cost		Rs. Cr	9.702
3	Financial parameters	Debt/equity	Tariff period	Year	35
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	6.7914
			Total equity amount	Rs Cr.	2.9106
		Debt component	Loan amount	Rs Cr	6.7914
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	2.9106
			RoE	%	16.78%
			RoE Period	Year	40
		Fiscal assumptions	Discount Rate	%	9.29%
			Income Tax	%	29.12%
		Depreciation	MAT Rate	%	16.59%
			Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	0.80%
4	Operation and maintenance	O & M expenses	Years for 4.67% rate	Year	15
			O & M expenses	Rs Cr/MW	0.39
5	Working Capital	For fixed charges	Escalation factor	%	3.84%
			O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Days	30
			Interest on WC	%	11.75%

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Determination of tariff for Mini/Micro Hydel plant (upto 2 MW)

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10
O & M expenses	Rs Lakh	39.05	40.55	42.11	43.72	45.40	47.15	48.96	50.84	52.79	54.82
Depreciation	Rs Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs Lakh	67.29	62.65	58.01	53.37	48.73	44.09	39.45	34.81	30.17	25.52
Interest on Working Capital	Rs Lakh	3.06	3.07	3.09	3.10	3.12	3.14	3.16	3.19	3.21	3.24
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	203.57	200.43	197.36	194.35	191.41	188.53	185.72	182.99	180.33	177.74
Tariff	Rs/kWh	7.86	7.74	7.62	7.51	7.39	7.28	7.17	7.07	6.97	6.87
O & M expenses	Rs/kWh	1.51	1.57	1.63	1.69	1.75	1.82	1.89	1.96	2.04	2.12
Depreciation	Rs/kWh	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Interest on term loan	Rs/kWh	2.60	2.42	2.24	2.06	1.88	1.70	1.52	1.34	1.17	0.99
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.86	7.74	7.62	7.51	7.39	7.28	7.17	7.07	6.97	6.87
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450
Levellised Tariff	Rs/kWh		7.46								

Determination of tariff for Mini/Micro Hy

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs/Lakh	56.92	59.11	61.38	63.73	66.18	68.72	71.36	74.10	76.95	79.90
Depreciation	Rs/Lakh	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31	45.31
Interest on term loan	Rs/Lakh	20.88	16.24	11.60	6.96	2.32	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/Lakh	3.28	3.31	3.35	3.39	3.44	3.14	3.24	3.34	3.45	3.56
Return on Equity	Rs/Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs/Lakh	175.24	172.82	170.49	168.25	166.10	128.46	131.20	134.04	136.99	140.06
Tariff	Rs/kVh	6.77	6.68	6.59	6.50	6.42	4.96	5.07	5.18	5.29	5.41
O & M expenses	Rs/kVh	2.20	2.28	2.37	2.46	2.56	2.65	2.76	2.86	2.97	3.09
Depreciation	Rs/kVh	1.75	1.75	1.75	1.75	1.75	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kVh	0.81	0.63	0.45	0.27	0.09	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kVh	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.13	0.14
Return on Equity	Rs/kVh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total Co ₅	Rs/kVh	6.77	6.68	6.59	6.50	6.42	4.96	5.07	5.18	5.29	5.41
Discount Factor		0.411	0.377	0.345	0.315	0.288	0.264	0.242	0.221	0.202	0.185
Levelled Tariff	Rs/kW-										

Determination of tariff for Mini/Micro Hy

Particulars	Year	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	21	22	23	24	25	26	27	28	29	30
O & M expenses	Rs Lakh	82.97	86.15	89.46	92.90	96.47	100.17	104.02	108.01	112.16	116.47
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	3.68	3.80	3.92	4.05	4.18	4.32	4.47	4.62	4.77	4.94
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	143.24	146.55	149.98	153.54	157.24	161.09	165.08	169.22	173.53	178.00
Tariff	Rs/kWh	5.53	5.66	5.79	5.93	6.07	6.22	6.38	6.54	6.70	6.88
O & M expenses	Rs/kWh	3.21	3.33	3.46	3.59	3.73	3.87	4.02	4.17	4.33	4.50
Depreciator	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	5.53	5.66	5.79	5.93	6.07	6.22	6.38	6.54	6.70	6.88
Discount Factor		0.169	0.155	0.142	0.130	0.119	0.109	0.099	0.091	0.083	0.076
Levelled Tariff	Rs/kWh										

Determination of tariff for Mini/Micro Hy

Particulars	Year	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
Fixed Cost	Year	31	32	33	34	35	36	37	38	39	40
O & M expenses	Rs Lakh	120.94	125.58	130.40	135.41	140.61	146.01	151.62	157.44	163.49	169.76
Depreciation	Rs Lakh	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Interest on term loan	Rs Lakh	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	5.10	5.28	5.46	5.65	5.84	6.05	6.26	6.48	6.70	6.94
Return on Equity	Rs Lakh	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85	48.85
Total Fixed Cost	Rs Lakh	182.64	187.45	192.46	197.65	203.05	208.65	214.47	220.51	226.78	233.30
Tariff	Rs/kWh	7.06	7.24	7.43	7.64	7.84	8.06	8.29	8.52	8.76	9.01

O & M expenses	Rs/kWh	4.67	4.85	5.04	5.23	5.43	5.64	5.86	6.08	6.32	6.56
Depreciation	Rs/kWh	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Interest on term loan	Rs/kWh	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/kWh	0.20	0.20	0.21	0.22	0.23	0.23	0.24	0.25	0.26	0.27
Return on Equity	Rs/kWh	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total CoG	Rs/kWh	7.06	7.24	7.43	7.64	7.84	8.06	8.29	8.52	8.76	9.01
Discount Factor		0.070	0.064	0.058	0.053	0.049	0.045	0.041	0.037	0.034	0.031
Levelled Tariff	Rs/kWh										

Energy Charge for FY 2023-24

Particulars	Unit	Parameters
SHR	kCal/kWh	4000
GCV	kCal/kg	3100
Aux. Cons. Factor	%	10%
Base Price	Rs./MT	4118.10
Variable Cost	Rs./kWh	5.90

As per the regulations energy charges is determined following the formula as under:-

$$\text{Energy charges} = (\text{SHR}/\text{GCV}) * [1/(1-\text{auxiliary consumption})] * \text{biomass price}$$

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Parameters for determination of tariff for Co-Generation plants					
	Assumption Head	Sub-head	Sub-head 2	Unit	Values
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	38%
			Auxiliary consumption	%	8.5%
			Useful Life	Years	25
			Gross Generation	MU	3.3288
			Auxiliary consumption	MU	0.282948
			Net generation	MU	3.045852
2	Project cost	Capital cost/MW		Rs Cr/MW	4.92
		Power Plant Cost		Rs. Cr	4.92
3	Financial parameters	Debt/equity	Life period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	3.44
			Total equity amount	Rs Cr.	1.48
		Debt component	Loan amount	Rs Cr	3.44
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	1.476
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	9.29%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.28
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Bagasse Stock	Months	4
			Receivable	Months	1
			Interest on WC	%	11.75%
6	Fuel related assumptions		Heat rate	KCal/kWh	3600
			Calorific value of bagasse	KCal/kg	2250
			Base price of bagasse	Rs/MT	2632.4
			bagasse price escalation factor	%	5%

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Determination of tariff for Co-Generation plants

Particulars	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Variable Cost	Rs Lakh	140.20	147.21	154.57	162.30	170.42	178.94	187.88	197.28	207.14	217.50	228.37	239.79	251.78	264.37	277.59	291.47	306.04
Fixed Cost	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
O & M expenses	Rs Lakh	28.45	29.54	30.68	31.85	33.08	34.35	35.67	37.04	38.46	39.94	41.47	43.06	44.72	46.43	48.22	50.07	51.99
Depreciation	Rs Lakh	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98	22.98
Interest on term loan	Rs Lakh	34.12	31.77	29.42	27.06	24.71	22.36	20.00	17.65	15.30	12.94	10.59	8.24	5.88	3.53	1.18	0.00	0.00
Interest on Working Cap	Rs Lakh	8.81	9.17	9.56	9.96	10.39	10.83	11.30	11.79	12.31	12.85	13.43	14.03	14.66	15.32	16.02	16.63	17.43
Return on Equity	Rs Lakh	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77
Total Fixed Cost	Rs Lakh	115.13	118.24	117.40	116.63	115.92	115.29	114.72	114.23	113.82	113.48	113.24	113.08	113.01	113.04	113.16	101.29	104.01
Tariff	Rs/kWh	3.91	3.88	3.85	3.83	3.81	3.79	3.77	3.75	3.74	3.73	3.72	3.71	3.71	3.71	3.72	3.33	3.41
O & M expenses	Rs/kWh	0.93	0.97	1.01	1.05	1.09	1.13	1.17	1.22	1.26	1.31	1.36	1.41	1.47	1.52	1.58	1.64	1.71
Depreciation	Rs/kWh	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.32	0.32
Interest on term loan	Rs/kWh	1.12	1.04	0.97	0.89	0.81	0.73	0.66	0.58	0.50	0.42	0.35	0.27	0.19	0.12	0.04	0.00	0.00
Interest on Working Cap	Rs/kWh	0.29	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.57
Return on Equity	Rs/kWh	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Total Fixed Cost	Rs/kWh	3.91	3.88	3.85	3.83	3.81	3.79	3.77	3.75	3.74	3.73	3.72	3.71	3.71	3.71	3.72	3.33	3.41
Variable COG	Rs/kWh	4.50	4.83	5.07	5.33	5.59	5.87	6.17	6.48	6.80	7.14	7.50	7.87	8.27	8.68	9.11	9.57	10.05
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450	0.411	0.377	0.345	0.315	0.288	0.264	0.242
Levelled Tariff	Rs/kWh	3.78																

Determination of tariff for Co-Ge

Particulars	Year	18	19	20	21	22	23	24	25
Installed Capacity	MW	1	1	1	1	1	1	1	1
Net Power Generation	L/U	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Variable Cost	Rs Lakh	321.34	337.41	354.28	372.00	390.59	410.12	430.63	452.16
Fixed Cost	Year	18	19	20	21	22	23	24	25
O & M expenses	Rs Lakh	53.99	56.06	58.21	60.45	62.77	65.18	67.68	70.28
Depreciation	Rs Lakh	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82
Interest on term loan	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Cap	Rs Lakh	18.26	19.13	20.05	21.01	22.01	23.07	24.18	25.34
Return on Equity	Rs Lakh	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77
Total Fixed Cost	Rs Lakh	106.83	109.78	112.85	116.04	119.37	122.84	126.45	130.21
Tariff	Rs/kWh	3.51	3.60	3.70	3.81	3.92	4.03	4.15	4.27
O & M expenses	Rs/kWh	1.77	1.84	1.91	1.98	2.06	2.14	2.22	2.31
Depreciation	Rs/kWh	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Cap	Rs/kWh	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83
Return on Equity	Rs/kWh	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Total Fixed Cost	Rs/kWh	3.51	3.60	3.70	3.81	3.92	4.03	4.15	4.27
Variable COG	Rs/kWh	10.55	11.08	11.63	12.21	12.82	13.47	14.14	14.85
Discount Factor		0.221	0.202	0.185	0.169	0.155	0.142	0.130	0.119
Levelled Tariff	Rs/kWh								

Parameters for determination of tariff for Solar PV plant (0.5 MW to 2 MW)					
S No	Assumption Head	Sub-head	Sub-head 2	Unit	Value
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	19%
			Auxiliary consumption	%	0.25%
			Useful Life	Years	25
			Gross Generation	MU	1.6644
			Auxiliary consumption	MU	0.004161
			Net generation	MU	1.660239
2	Project cost	Capital cost/MW		Rs Cr/MW	4.50
		Power Plant Cost		Rs. Cr	4.5
3	Financial parameters	Debt/equity	Tariff period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	3.15
			Total equity amount	Rs Cr.	1.35
		Debt component	Loan amount	Rs Cr	3.15
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	1.35
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	9.29%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate (first 10 years)	%	16.59%
		Depreciation	Depreciation rate for first 13 years	%	4.67%
			Depreciation rate 14 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.084
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Receivable	Months	1
			Interest on WC	%	11.75%

Determination of tariff for Solar PV plant (above 0.5 MW to 2 MW)

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Annexure: 9

Particulars	Year	1	2	3	4	5	6	7	8	9	10
Installed Capacity/ Net Power Generation	MW	1	1	1	1	1	1	1	1	1	1
Fixed Cost	Year	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
O & M expenses	Rs Lakh	1	2	3	4	5	6	7	8	9	10
Depreciation	Rs Lakh	8.43	8.75	9.09	9.44	9.80	10.18	10.57	10.97	11.40	11.83
Interest on term loan	Rs Lakh	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02
Interest on Working Capital	Rs Lakh	31.21	29.06	26.91	24.75	22.60	20.45	18.30	16.14	13.99	11.84
Return on Equity	Rs Lakh	1.06	1.05	1.04	1.03	1.02	1.02	1.01	1.00	1.00	0.99
Total Fixed Cost	Rs Lakh	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66
Tariff	Rs/kWh	84.37	82.53	80.71	78.90	77.10	75.32	73.55	71.80	70.06	68.34
	Rs/kWh	5.08	4.97	4.86	4.75	4.64	4.54	4.43	4.32	4.22	4.12
O & M expenses	Rs/kWh	0.51	0.53	0.55	0.57	0.59	0.61	0.64	0.66	0.69	0.71
Depreciation	Rs/kWh	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Interest on term loan	Rs/kWh	1.88	1.75	1.62	1.49	1.36	1.23	1.10	0.97	0.84	0.71
Interest on Working Capital	Rs/kWh	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	5.08	4.97	4.86	4.75	4.64	4.54	4.43	4.32	4.22	4.12
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450
Levelised Tariff	Rs/kWh	4.24									

Determination of tariff for Solar PV plant

Particulars	Year	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Fixed Cost	Year	11	12	13	14	15	16	17	18	19	20
O & M expenses	Rs Lakh	12.29	12.76	13.25	13.76	14.29	14.84	15.41	16.00	16.61	17.25
Depreciation	Rs Lakh	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02	21.02
Interest on term loan	Rs Lakh	9.69	7.53	5.38	3.23	1.08	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	0.99	0.99	0.98	0.98	0.98	0.87	0.89	0.91	0.94	0.96
Return on Equity	Rs Lakh	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66
Total Fixed Cost	Rs Lakh	66.64	64.95	63.29	61.64	60.02	47.34	47.93	48.55	49.18	49.85
Tariff	Rs/kWh	4.01	3.91	3.81	3.71	3.61	2.85	2.89	2.92	2.96	3.00
O & M expenses	Rs/kWh	0.74	0.77	0.80	0.83	0.86	0.89	0.93	0.96	1.00	1.04
Depreciation	Rs/kWh	1.27	1.27	1.27	1.27	1.27	0.54	0.54	0.54	0.54	0.54
Interest on term loan	Rs/kWh	0.58	0.45	0.32	0.19	0.06	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.06	0.06	0.06
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	4.01	3.91	3.81	3.71	3.61	2.85	2.89	2.92	2.96	3.00
Discount Factor		0.411	0.377	0.345	0.315	0.288	0.264	0.242	0.221	0.202	0.185
Levelled Tariff	Rs/kWh										

Determination of tariff for Solar PV plant

Particulars	Year	21	22	23	24	25
Installed Capacity	MW	1	1	1	1	1
Net Power Generation	MU	1.66	1.66	1.66	1.66	1.66
Fixed Cost	Year	21	22	23	24	24
C & M expenses	Rs Lakh	17.91	18.60	19.31	20.05	20.82
Depreciation	Rs Lakh	8.98	8.98	8.98	8.98	8.98
Interest on term loan	Rs Lakh	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lakh	0.99	1.01	1.04	1.07	1.10
Return on Equity	Rs Lakh	22.66	22.66	22.66	22.66	22.66
Total Fixed Cost	Rs Lakh	50.53	51.25	51.99	52.76	53.56
Tariff	Rs/kWh	3.04	3.09	3.13	3.18	3.23

O & M expenses	Rs/kWh	1.08	1.12	1.16	1.21	1.25
Depreciation	Rs/kWh	0.54	0.54	0.54	0.54	0.54
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs/kWh	0.06	0.06	0.06	0.06	0.07
Return on Equity	Rs/kWh	1.36	1.36	1.36	1.36	1.36
Total CoG	Rs/kWh	3.04	3.09	3.13	3.18	3.23
Discount Factor		0.169	0.155	0.142	0.130	0.119
Levelled Tariff	Rs/kWh					

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Parameters for determination of tariff for Co-Generation plants					
S. No.	Assumption Head	Sub-head	Sub-head 2	Unit	Values
1	Power generation	Capacity	Installed Capacity	MW	1
			Capacity Utilisation Factor	%	90%
			Auxiliary consumption	%	12.0%
			Useful Life	Years	25
			Gross Generation	MU	7.884
			Auxiliary consumption	MU	0.94608
			Net generation	MU	6.93792
2	Project cost	Capital cost/MW		Rs Cr/MW	11.86
		Power Plant Cost		Rs. Cr	11.86
3	Financial parameters	Debt/equity	Tariff period	Year	25
			Debt	%	70%
			Equity	%	30%
			Total debt amount	Rs Cr.	8.30
			Total equity amount	Rs Cr.	3.56
		Debt component	Loan amount	Rs Cr	8.30
			Repayment Period	Year	15
			Interest rate	%	10.25%
		Equity Component	Equity Amount	Rs Cr	3.558
			RoE for first 10 years	%	16.78%
			RoE Period	Year	25
			Discount Rate	%	9.29%
		Fiscal assumptions	Income Tax	%	29.12%
			MAT Rate	%	16.59%
		Depreciation	Depreciation rate for first 15 years	%	4.67%
			Depreciation rate 16 year onwards	%	2.00%
			Years for 4.67% rate	Year	15
4	Operation and maintenance	O & M expenses	O & M expenses	Rs Cr/MW	0.66
			Escalation factor	%	3.84%
5	Working Capital	For fixed charges	O & M expenses	Month	1
			Maintenance Spare @ % of O & M expenses	%	15%
			Bagasse Stock	Months	4
			Receivable	Months	1
			Interest on WC	%	11.75%
6	Fuel related assumptions		Heat rate	KCal/kWh	#REF!
			Calorific value of bagasse	KCal/kg	#REF!
			Base price of bagasse	Rs/MT	#REF!
			bagasse price escalation factor	%	5%

Determination of tariff for Co-Generation plants

Annexure: 10

Particulars	Year																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Installed Capacity	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Power Generation	MU	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
Variable Cost	Rs Lakh	496.69	521.53	547.60	574.98	603.73	633.92	665.61	698.90	733.84	770.53	809.06	849.51	891.99	936.59	983.42	#####
Fixed Cost	Rs Lakh	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
O & M expenses	Rs Lakh	66.10	68.64	71.27	74.01	76.85	79.80	82.87	86.05	89.36	92.79	96.35	100.05	103.89	107.88	112.02	116.32
Depreciation	Rs Lakh	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39	55.39
Interest on term loan	Rs Lakh	82.25	76.59	70.91	65.24	59.57	53.89	48.22	42.55	36.87	31.20	25.53	19.86	14.18	8.51	2.84	0.00
Interest on Working Capital	Rs Lakh	28.99	30.26	31.59	32.99	34.47	36.01	37.64	39.35	41.14	43.03	45.01	47.10	49.28	51.58	54.00	56.25
Return on Equity	Rs Lakh	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72	59.72
Total Fixed Cost	Rs Lakh	292.46	290.59	288.88	287.35	285.99	284.81	283.83	283.05	282.48	282.12	282.00	282.10	282.46	283.08	283.96	255.95
Tariff	Rs/kWh	4.22	4.19	4.16	4.14	4.12	4.11	4.09	4.08	4.07	4.07	4.06	4.07	4.07	4.08	4.09	3.69
O & M expenses	Rs/kWh	0.95	0.99	1.03	1.07	1.11	1.15	1.19	1.24	1.29	1.34	1.39	1.44	1.50	1.55	1.61	1.68
Depreciation	Rs/kWh	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.83	0.80	0.80	0.80	0.80	0.80
Interest on term loan	Rs/kWh	1.19	1.10	1.02	0.94	0.86	0.78	0.70	0.61	0.53	0.45	0.37	0.29	0.20	0.12	0.04	0.00
Interest on Working Capital	Rs/kWh	0.42	0.44	0.46	0.48	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.81
Return on Equity	Rs/kWh	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Total Fixed Cost	Rs/kWh	4.22	4.19	4.16	4.14	4.12	4.11	4.09	4.08	4.07	4.07	4.06	4.07	4.07	4.08	4.09	3.69
Variable COG	Rs/kWh	7.16	7.52	7.89	8.29	8.70	9.14	9.59	10.07	10.58	11.11	11.66	12.24	12.86	13.50	14.17	14.88
Discount Factor		1	0.915	0.837	0.766	0.701	0.641	0.587	0.537	0.491	0.450	0.411	0.377	0.345	0.315	0.288	0.264
Levelised Tariff	Rs/kWh	4.12															0.242

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Determination of tariff for Co-Ge

Particulars	Year	18	19	20
Installed Capacity	MW	1	1	1
Net Power Generation	MU	6.94	6.94	6.94
Variable Cost	Rs Lakh	1138.43	1195.35	1255.12
Fixed Cost	Year	18	19	20
O & M expenses	Rs Lakh	125.43	130.25	135.25
Depreciation	Rs Lakh	23.66	23.66	23.66
Interest on term loan	Rs Lakh	0.00	0.00	0.00
Interest on Working Cap	Rs Lakh	61.82	64.82	67.96
Return on Equity	Rs Lakh	59.72	59.72	59.72
Total Fixed Cost	Rs Lakh	270.63	278.44	286.59
Tariff	Rs/kWh	3.90	4.01	4.13

O & M expenses	Rs/kWh	1.81	1.88	1.95
Depreciation	Rs/kWh	0.34	0.34	0.34
Interest on term loan	Rs/kWh	0.00	0.00	0.00
Interest on Working Cap	Rs/kWh	0.89	0.93	0.98
Return on Equity	Rs/kWh	0.86	0.86	0.86
Total Fixed Cost	Rs/kWh	3.90	4.01	4.13
Variable COG	Rs/kWh	16.41	17.23	18.09
Discount Factor		0.221	0.202	0.185
Levelled Tariff	Rs/kWh			