

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

**Coram: Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri P.K. Singh, Member**

Date of Order: 12th August, 2022

IN THE MATTER OF

Determination of levellised generic tariff for FY 2022-23 under Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020.

PROPOSAL

1. The Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 (hereinafter referred to as "the RE Tariff Regulations"), which provide for terms and conditions and the procedure for determination of tariff of the following categories of Renewable Energy (RE) generating stations:
 - a. Small Hydro Projects;
 - b. Biomass Power Projects with Rankine Cycle technology;
 - c. Non-fossil fuel-based co-generation Project;
 - d. Biomass Gasifier based Power Projects;
 - e. Biogas based Power Projects
2. As per Regulation 7 of the RE Tariff Regulations, the Commission shall determine project specific tariff for the following RE technologies:
 - a. Solar PV power projects, floating solar projects and solar thermal power projects;
 - b. Wind power projects (both on-shore and off-shore);

- c. Biomass gasifier-based power projects and biogas based power projects – if a project developer opts for project specific tariff;
 - d. Municipal solid waste-based power projects and refuse derived fuel based power projects;
 - e. Renewable hybrid energy projects;
 - f. Renewable energy with storage projects; and
 - g. Any other project based on new renewable energy sources or technologies approved by MNRE.
3. Further, Regulation 8(1) of the RE Tariff Regulations provides as under:
- “8. Petition and proceedings for determination of tariff*
- 1) In case of renewable energy projects for which generic tariff has to be determined as per these regulations, the Commission shall determine such generic tariff through a Generic Tariff Order at least one month before the commencement of year for each year of the Control Period:*
- Provided that for second year of Control Period i.e., from 01.04.2021 to 31.03.2022, the Generic Tariff Order shall be determined upon issuance of these regulations.”*
4. The Commission, in due discharge of the mandate under Regulation 8(1) of the RE Tariff Regulations proposes to determine the generic tariff of the RE projects for the third year of control period (i.e. FY 2022-23) as per the proposal enclosed as **Annexure-I**.
5. The comments/suggestions of the stakeholders on the above proposal are invited by 30th August 2022.

[P. K. Singh]

MEMBER

[Arun Goyal]

MEMBER

[Indu Shekhar Jha]

MEMBER

New Delhi, 12 August, 2022

ANNEXURE 1**PROPOSED LEVELLISED GENERIC TARIFF FOR VARIOUS RENEWABLE ENERGY TECHNOLOGIES FOR FY 2022-23**

1. The proposed levelled generic tariffs for Small Hydro projects, Biomass Power Projects with Rankine Cycle Technology, Non-fossil fuel-based co-generation Projects, Biomass Gasifier based Power Projects and Biogas based Power Projects, for FY 2022-23 are discussed in the following paragraphs.
2. For RE Projects covered under Regulation 7 of the RE Tariff Regulations, the Commission is required to determine project specific tariff. A separate petition is required to be filed by the person seeking tariff for determination of project specific tariff as per Regulation 8 of RE Tariff Regulations.

A. Useful Life

3. The clause (hh) of sub-Regulation (1) of Regulation 2 of the RE Tariff Regulations defines 'useful life' in relation to project, including dedicated evacuation system, from the date of commercial operation (COD) of such project, shall mean the following:

Renewable Energy Projects	Years
Small Hydro	40
Biomass power project with Rankine Cycle technology	25
Non-fossil fuel-based co-generation	25
Biomass Gasifier	25
Biogas	25

B. Control Period

4. Regulation 5 of the RE Tariff Regulations specifies that the Control Period for determination of tariff for renewable energy projects (RE projects) shall be from 01.07.2020 to 31.03.2023. The proviso to this regulation specifies that the tariff determined for the RE projects commissioned during the control period, shall

remain valid for the tariff period (Useful life of the project). Accordingly, the tariff determined by the Commission vide order 2/SM/2021 dated 31st March, 2021, is applicable for RE projects commissioned during second year of control period. The tariff proposed to be determined via this proposal is for the third year of the control period, which shall be applicable for the Projects commissioned during the period from 1st April, 2022 till March 31, 2023.

C. Tariff Structure

5. Regulation 9 of the RE Regulations stipulates that the tariff for renewable energy sources shall consist of the following components:
 - a. Return on equity;
 - b. Interest on loan capital;
 - c. Depreciation;
 - d. Interest on working capital; and
 - e. Operation and Maintenance expenses
6. For renewable energy technologies having fuel cost component, like biomass power projects with rankine cycle technology, non-fossil fuel based cogeneration, biomass gasifier based power projects and biogas based power projects, single part tariff with two components i.e. fixed cost component and fuel cost component, is proposed to be determined.

D. Tariff Design

7. In terms of Regulation 10 of the RE Tariff Regulations, the tariff design for renewable energy generating stations is as under:

“(1) The generic tariff shall be determined, on levellised basis, considering the year of commissioning of the project, for the tariff period of the project:

Provided that for renewable energy projects having single part tariff with two components, fixed cost component shall be determined on levellised basis considering the year of commissioning of the project while fuel cost component shall be determined on year of operation basis in the Tariff Order to be issued by the Commission.”

E. Levellised Tariff

8. Levellised Tariff is proposed to be calculated by carrying out levellisation for 'useful life' of each technology considering the discount factor.

F. Discount Factor

9. Regulations 10(2) of the RE Tariff Regulations specifies methodology to calculate discount factor for the purpose of levellised tariff computation as under:

“10. Tariff Design

... ..

(2) For the purpose of levellised tariff computation, discount factor equivalent to post-tax weighted average cost of capital shall be considered.”

10. Accordingly, the discount factor considered for this exercise is equal to the post tax weighted average cost of capital on the basis of normative debt: equity ratio (70:30. Considering the normative debt equity ratio and weighted average of the post-tax rates for debt and equity component, the discount factor is calculated.
11. Interest Rate considered for the loan component (i.e.,70% of capital cost) is 9.12%. For equity component (i.e.,30% of capital cost), the rate of Return on Equity (ROE) is considered at post-tax rate of 14%. Further, Corporate tax rate has been considered as 34.94%¹. Accordingly, the discount factor derived by this method for all technologies is 8.35% $[(9.12\% \times 0.70) \times (1 - 34.94\%)] + (14.0\% \times 0.30)$

G. Capital Cost

12. Regulation 12 of the RE Tariff Regulations specifies as under:

“12. Capital Cost

Norms for capital cost, as specified in relevant chapters of these regulations, shall be inclusive of land cost, pre-development expenses, all capital work including plant & machinery, civil work, erection, commissioning, financing cost, interest during construction, and evacuation infrastructure up to inter-connection point.”

¹Income Tax rate of 30% + 12% surcharge on IT rate +4% Health and Education cess on IT rate and Surcharge

13. The Commission has considered the normative capital cost as specified in RE Tariff Regulations, applicable for the third year of control period i.e. FY 2022-23, for various RE technologies viz. Small Hydro Power, Biomass Power Projects based on Rankine Cycle Technology, Non-Fossil Fuel based Cogeneration Projects, Biomass Gasifier based power projects and Biogas based power projects. The capital cost of RE projects is discussed as under:

Capital cost of Small Hydro Projects (SHP)

14. Small Hydro Projects for the purpose of the RE Tariff Regulations cover those projects which are located at the sites approved by the State Nodal Agencies/State Governments using new plant and machinery and with installed power plant capacity lower than or equal to 25MW.
15. Normative capital cost for small hydro projects for FY 2022-23 in accordance to Regulation 27 (1) of the RE Tariff Regulations as under:

Region	Projects Size	Capital Cost (Rs.Lakh/MW)
Himachal Pradesh, Uttarakhand, West Bengal, Union Territory of Jammu and Kashmir, Union Territory of Ladakh and North Eastern States	Below 5 MW	1100
	5 MW to 25 MW	1100
Others States	Below 5 MW	780
	5 MW to 25 MW	900

Capital cost of Biomass based Power Projects

16. The Commission, under Regulation 31 of the RE Tariff Regulations has specified the normative capital cost for Biomass based Power Projects for FY 2022-23, as under:

Biomass Rankine Cycle Projects	Capital Cost (Rs lakh/ MW)
Project [other than rice straw and juliflora (plantation) based project] with water cooled condenser	559
Project [other than rice straw and Juliflora(plantation) based project] with air cooled condenser	600
For rice straw and Juliflora (plantation) based project with water cooled condenser	611
For rice straw and Juliflora (plantation) based project with air cooled condenser	652

Capital cost of Non-fossil fuel based Cogeneration Projects

17. Non-fossil based cogeneration has been defined as the process in which more than one form of energy is produced in a sequential manner by using biomass. As per Regulation 4(d) of the RE Tariff Regulations, for a project to qualify as non-fossil based co-generation project, it must be using new plant and machinery with topping cycle mode of operation which uses the non-fossil fuel input for power generation and utilizes the thermal energy generated for useful heat applications in other industrial activities simultaneously, and where the sum of useful power output and half of useful thermal output is greater than 45% of the plant's energy consumption during the season.
18. Regulation 39 of the RE Tariff Regulations has specified normative capital cost for the Non-Fossil Fuel Based Cogeneration Projects as Rs.492 lakh/MW for FY 2022-23.

Capital cost of Biomass Gasifier Power Projects

19. Regulation 50 of the RE Tariff Regulations has specified the normative capital cost for Biomass Gasifier power projects as Rs. 593 lakh/MW for FY 2022-23. After taking into account the capital subsidy of Rs. 150.00 lakh/MW (by Ministry of New and Renewable Energy), net project cost works out to be Rs. 443 lakh/MW for FY 2022-23.

Capital cost of Biogas based Power Projects

20. Regulation 56 of the RE Tariff Regulations has specified the normative capital

cost for Biogas based power projects as Rs. 1186 lakh/MW for FY 2022-23. After taking into account the capital subsidy of Rs. 300 lakh/MW (by Ministry of New and Renewable Energy), net project cost works out to be Rs. 886 lakh/MW for FY 2022-23.

21. The capital cost for FY 2022-23 in respect of the renewable energy power generating stations is summarized as following:

Renewable Energy Projects	Net Capital Cost Norm for FY 2022-23 (Rs. lakh/MW)
Small Hydro	
Himachal Pradesh, Uttarakhand, West Bengal, Union Territory of Jammu and Kashmir, Union Territory of Ladakh and North Eastern States (Below 5 MW)	1100
Himachal Pradesh, Uttarakhand, West Bengal, Union Territory of Jammu and Kashmir, Union Territory of Ladakh and North Eastern States (5 MW to 25 MW)	1100
Other States (Below 5 MW)	780
Other States (5 MW to 25 MW)	900
Biomass Based Projects Based on Rankine Cycle Technology	
Project [other than rice straw and Juliflora (plantation) based project] with water cooled condenser	559
Project [other than rice straw and Juliflora (plantation) based project] with air cooled condenser	600
Rice straw and Juliflora (plantation) based project with water cooled condenser	611
Rice straw and Juliflora (plantation) based project with air cooled condenser	652
Non-fossil fuel co-generation	492
Biomass Gasifier based Power Projects	443
Biogas based Power Projects	886

H. Debt-Equity Ratio

22. Sub-Regulation (1) of Regulation 13 of the RE Tariff Regulations, as stipulated below, specifies debt-equity ratio of 70:30 for determination of generic tariff

based on suo-motu petition.

23. Based on the debt equity ratio of 70:30, the debt and equity components of the normative capital cost for determination of tariff for the RE projects have been worked out as following:

Renewable Energy Projects	Debt Amount (Rs. Lakh)	Equity Amount (Rs. Lakh)	Net Capital Cost (Rs. Lakh)
Small Hydro			
Himachal Pradesh, Uttarakhand, WestBengal, Union Territory of Jammu andKashmir, Union Territory of Ladakh andNorth Eastern States. (Below 5 MW)	770.00	330.00	1,100.00
Himachal Pradesh, Uttarakhand, WestBengal, Union Territory of Jammu andKashmir, Union Territory of Ladakh andNorth Eastern States.(5 MW to 25 MW)	770.00	330.00	1,100.00
Other States (Below 5 MW)	546.00	234.00	780.00
Other States (5 MW to 25 MW)	630.00	270.00	900.00
Biomass Based Projects Based on Rankine Cycle Technology			
Project [other than rice straw and Juliflora (plantation) based project] with water cooled condenser	391.30	167.70	559.00
Project [other than rice straw and Juliflora (plantation) based project] with air cooled condenser	420.00	180.00	600.00
Rice straw and Juliflora (plantation) based project with water cooled condenser	427.70	183.30	611.00
Rice straw and Juliflora (plantation) based project with air cooled condenser	456.40	195.60	652.00
Non-fossil fuel co-generation	344.40	147.60	492.00
Biomass Gasifier based Power Projects	310.10	132.90	443.00

Renewable Energy Projects	Debt Amount (Rs. Lakh)	Equity Amount (Rs. Lakh)	Net Capital Cost (Rs. Lakh)
Biogas based Power Projects	620.20	265.80	886.00

I Return on Equity

24. As regards Rate of Return on Equity, sub-Regulation (2) of Regulation 16 of the RE Tariff Regulations specifies as under:

“16. Return on Equity

... ..

(2) The normative Return on Equity shall be 14%. The normative Return on Equity shall be grossed up by the latest available notified Minimum Alternate Tax (MAT) rate for the first 20 years of the Tariff Period and by the latest available notified Corporate Tax rate for the remaining Tariff Period.”

25. For computation of Rate of Return on Equity, MAT Rate of 17.47% and Corporate Tax Rate of 34.94% has been considered. Accordingly, Rate of Return has been computed as 16.96% for first 20 years and 21.52% after 20 years of useful life.

J. Interest on Loan

26. Sub-Regulation (1) of Regulation 14 of the RE Regulations specifies the loan tenure of 15 years for the purpose of determination of generic and project specific tariff for RE projects, which is reproduced as under:

“(a) The loans arrived at in the manner indicated in Regulation 13 shall be considered as gross normative loan for calculation for interest on loan.....

(b) For the purpose of computation of tariff, normative interest rate of two hundred (200) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months shall be considered.

(c) Notwithstanding any moratorium period availed by project developer, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.”

27. The monthly data of MCLR for the last available six months from State Bank of

India and the average MCLR is shown in following table:

Effective Date	One (1) Year Tenor MCLR rates ²
15.01.2022 to 14.02.2022	7.00%
15.02.2022 to 14.03.2022	7.00%
15.03.2022 to 14.04.2022	7.00%
15.04.2022 to 14.05.2022	7.10%
15.05.2022 to 14.06.2022	7.20%
15.06.2022 to 14.07.2022	7.40%
Avg. for last Available 6 months	7.12%

28. Accordingly, interest rate for loan component is determined as 9.12%.

K. Depreciation

29. Regulation 15 of the RE Tariff Regulations specifies for computation of depreciation in the following manner:

“(1) The value base for the purpose of depreciation shall be the capital cost of the project admitted by the Commission. The salvage value of the project shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the project”

Provided that, no depreciation shall be allowed to the extent of grant or capital subsidy received for the project.

(2) Depreciation rate of 4.67% per annum shall be considered for the first 15 years and remaining depreciation shall be evenly spread during remaining Useful Life of the project”

(3) Depreciation shall be computed from the first year of commercial operation:

Provided, that for determination of project specific tariff, in case of commercial operation of the project for part of the year, depreciation shall be computed on pro rata basis.”

30. In accordance with the above, the rate of depreciation for the first 15 years is specified as 4.67% and the rate of depreciation from the 16th year onwards is to be spread over the balance useful life of the RE project as under:

Details	Small Hydro	Biomass based	Non-Fossil Fuel cogeneration	Biomass Gasifier	Biogas
Useful Life (in years)	40	25	25	25	25
Rate of depreciation for 15 years (%)	4.67	4.67	4.67	4.67	4.67
Rate of depreciation	0.80%	2.00%	2.00%	2.00%	2.00%

²Source: <https://www.sbi.co.in/web/interest-rates/interest-rates/mclr-historical-data>

Details	Small Hydro	Biomass based	Non-Fossil Fuel cogeneration	Biomass Gasifier	Biogas
from 16 th year onwards (%)					

L. Interest on Working Capital

31. Regulation 17 of the RE Tariff Regulations specifies for the working capital requirements of the RE projects as under:

“(1) The Working Capital requirement in respect of wind power projects, small hydro projects, solar PV power projects, floating solar projects, solar thermal power projects, and renewable energy with storage projects shall be computed in accordance with the following:

- (a) Operation & Maintenance expenses for one month*
- (b) Receivables equivalent to 45 days of tariff for sale of electricity calculated on normative Capacity Utilisation Factor or Plant Load Factor, as the case may be and*
- (c) Maintenance spares equivalent to 15% of Operation and Maintenance expenses.*

(2) The Working Capital requirement in respect of biomass power projects with Rankine cycle technology, biogas power projects, biomass gasifier based power projects, non-fossil fuel based co-generation projects, municipal solid waste based power projects and refuse derived fuel based power projects shall be computed in accordance with the following

- (a) Fuel costs for four months equivalent to normative Plant Load Factor;*
- (b) Operation and Maintenance expense for one month;*
- (c) Receivables equivalent to 45 days of tariff for sale of electricity calculated on the plant load factor; and*
- (d) Maintenance spares equivalent to 15% of Operation and Maintenance expenses.*

(3) In case of renewable hybrid energy projects, the Working Capital requirement shall be sum of the Working Capital requirement determined as per norms applicable for renewable energy sources, in proportion to their rated capacity in the project

(4) Interest on Working Capital shall be at interest rate equivalent to the normative interest rate of three hundred and fifty (350) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months.”

32. Receivables equivalent to forty five (45) days of tariff for sale of electricity calculated on the plant load factor and four months of fuel cost, (as applicable for biomass power projects with rankine cycle technology, non-fossil fuel based co-

generation projects, biomass gasifier based power projects and biogas based power projects) have been considered.

33. Interest rate has been computed as average of State Bank of India MCLR (One Year Tenor) prevalent during the last available six months plus 350 basis points (equivalent to interest rate of 10.62%).
34. The parameters considered for computation of the interest on working capital are stipulated in following table:

Details	Small Hydro	Biomass Based (Rankine Cycle), Non-Fossil Fuel Generation, Biomass Gasifier and Biogas.
(a) For Fixed Charge		
O&M Expenses (Month)	1 month	1 month
Maintenance Spares (%) of O&M Expenses	15%	15%
Receivables (Days)	45 Days	45 Days
(b) For Variable Charge		
Biomass/Bagasse Stock (Months)	-	4 month
(c) Rate of Interest (%)	10.62%	10.62%

M. Operation and Maintenance Expenses

35. Regulation 19 of the RE Tariff Regulations specifies for Operation and Maintenance Expenses (O&M expenses) in respect of RE projects as following

"19. Operation and Maintenance Expenses

(1) *Operation and Maintenance expenses shall be determined for the Tariff Period of the project based on normative O&M expenses specified in these regulations for the third year of the Control Period."*

(2) *Normative O&M expenses allowed during third year of the Control Period i.e., financial year 2022-23 under these Regulations shall be escalated at the rate of 3.84% per annum over the Tariff Period."*

36. The normative O&M expenses for various RE technologies specified under the

relevant provisions of the RE Tariff Regulations are as under:

- (a) **Small Hydro Projects (SHP):** Regulation 30 of RE Regulations provide for the normative O&M expenses for small hydro projects for the first year of the Control Period (FY 2020-21), which shall be escalated at the rate of 3.84% per annum over the tariff period for determination of the levellised tariff. Accordingly, the table below represents the O&M cost for SHP as specified by the Commission for FY 2022-23:

Region	Project Size	O&M Expenses FY 2022-23 (Rs. Lakh/ MW)
Himachal Pradesh, Uttarakhand, West Bengal, Union Territory of Jammu and Kashmir, Union Territory of Ladakh and North Eastern States	Below 5 MW	45.05
	5 MW to 25 MW	33.79
Other States	Below 5 MW	36.29
	5 MW to 25 MW	26.28

- (b) **Biomass power projects with Rankine cycle technology:** Regulation 35 of RE Tariff Regulations provides that the normative O& M expenses for Biomass-based projects for first year of the Control Period (FY 2020-21) is Rs. 46.42 Lakh per MW which shall be escalated at the rate of 3.84%per annum over the tariff period. Accordingly, the Commission has proposed O&M cost norm for Biomass-based projects as Rs. 50.05 lakh per MW for FY 2022-23.

- (c) **Non-Fossil Fuel Cogeneration:** As per Regulation 45 of RE Tariff Regulations, the normative O&M expenses for non-fossil fuel co-generation projects for the first year of the Control Period (FY 2020-21) is Rs. 24.52 Lakh per MW which shall be escalated at the rate of 3.84% per annum over the tariff period. Accordingly, the Commission has proposed O&M cost norm for non-fossil based co-generation projects as

Rs. 26.44 lakhs per MW for FY 2022-23.

(d) Biomass Gasifier based power projects : As per Regulation 54 of the RE Tariff Regulations, normative O&M expenses for Biomass Gasifier power projects is Rs. 61.31 lakh/MW for the first year of Control Period (FY 2020-21) which shall be escalated at the rate of 3.84% per annum over the tariff period. Accordingly, the Commission has proposed O&M cost norm for Biomass Gasifier based power projects such as Rs. 66.11 lakh per MW for FY 2022-23.

(e) Biogas: As per Regulation 59 of the RE Tariff Regulations, normative O&M expenses for such projects is biogas Rs. 61.31Lakh/MW for the first year of Control Period (FY2020-21) which shall be escalated at the rate of 3.84% per annum over the tariff period. Accordingly, the commission has proposed O&M expense norm for such projects as Rs. 66.11 Lakh per MW for FY 2022-23.

37. The Commission has considered the normative O&M Expenses as specified in RE Tariff Regulations for different RE technologies as stated above.

N. Capacity Utilisation factor (CUF)/Plant Load Factor (PLF)

38. Regulation 18 of the RE Tariff Regulations, as extracted below, specifies number of hours for calculation of CUF/PLF as 8766.

“The number of hours in a year for calculation of capacity utilization factor and plant load factor, as the case may be, shall be considered as 8766.”

39. Regulation 28 of the RE Tariff Regulations specifies the norms for Capacity Utilization Factor (CUF) of units generated in a year in respect of the Small Hydro generating stations as per the details given in the table below:

Small Hydro Projects	CUF (%)
(i) Himachal Pradesh, Uttarakhand, West Bengal, Union Territory of Jammu and Kashmir, Union Territory of Ladakh and North Eastern States.	45%
(ii) Other States	30%

40. Further, the Commission has considered the Plant Load Factor (PLF) for Biomass (Rankine Cycle), Biomass Gasifier, and Biogas based renewable energy generating stations as specified in Regulations 32, 51 and 57 of the RE Tariff Regulations, which are given in the following table:

Renewable Energy Projects	PLF (%)
(i) Biomass Based (Rankine Cycle)	80%
(ii) Biomass Gasifier	85%
(iii) Biogas	90%

41. Further, as regards Non-fossil Fuel based Co-generation projects, the Commission has considered PLF as specified in Regulation 40, which is given in the following Table:

States	PLF (%)
(i) Uttar Pradesh & Andhra Pradesh	45%
(ii) Tamil Nadu & Maharashtra	60%
(iii) Other States	53%

O. Auxiliary Consumption

42. The Commission has considered the Auxiliary Consumption as specified Regulations 29, 33, 41, 52 and 58 of the RE Tariff Regulations, which is shown in the following Table:

Renewable Energy Projects	Auxiliary Consumption (%)
(i) Small Hydro	1.00%
(ii) Biomass Based Projects	
a) Using Water Cooled Condenser	10.00%
b) Using Air Cooled Condenser	12.00%

Renewable Energy Projects	Auxiliary Consumption (%)
(iii) Non-Fossil Fuel Generation	8.50%
(iv) Biomass Gasifier	10.00%
(v) Biogas based	12.00%

P. Station Heat Rate

43. The Station Heat Rates (SHR) specified under Regulations 34 and 42 of the RE Tariff Regulations for biomass power projects with rankine cycle technology and non-fossil fuel based co-generation projects are as under:

Renewable Energy Projects	SHR (kcal/Kwh)
Biomass based	(a) 4200: For projects using travelling grate boilers (b) 4125: For Projects using AFBC boilers
Non-Fossil Fuel based Cogeneration	3600

Q. Fuel Parameters

(a) Fuel Mix

44. Regulation 53 of the RE Tariff Regulations specifies that the normative specific fuel consumption shall be 1.25 kg per kWh for Biomass Gasifier based power project.
45. Also, Regulation 60 of the RE Tariff Regulations specifies that the normative specific fuel consumption shall be 3 kg of substrate mix per kWh for Biogas based power project.
46. The Commission has considered the fuel mix for Biomass Gasifier based power project and Biogas based power projects as specified above.

(b) Calorific Value

47. The Commission has considered the calorific value for biomass fuel used as

3100 kcal/kg as per Regulation 37 of the RE Tariff Regulations.

48. Also, the gross calorific value for bagasse in case of non-fossil fuel co-generation projects has been considered as 2250 kCal/kgas per Regulation 43 of RE Tariff Regulations, and for the use of biomass fuels other than bagasse, the calorific value as specified in above Para shall be applicable.

(c) Fuel Cost

49. The Commission, as per Regulation 38 of the RE Tariff Regulations, has specified the Biomass fuel price for third year of the Control Period (i.e. FY 2022-23) in the table below. The fuel prices have been derived by escalating the notified prices of first year of control period by 5%. For each subsequent year of the Tariff Period, a normative escalation factor of 5% per annum shall be applicable, unless reviewed and ordered otherwise by the Commission.

States	Biomass Price for FY 2021-22 (Rs/ MT)	Biomass Price for FY 2022-23 (Rs/ MT)
Andhra Pradesh	3492.3	3666.92
Haryana	3975.3	4174.07
Maharashtra	4065.6	4268.88
Punjab	4158	4365.90
Rajasthan	3470.25	3643.76
Tamil Nadu	3435.6	3607.38
Telangana	3492.3	3666.92
Uttar Pradesh	3553.2	3730.86
Other States	3734.85	3921.59

50. The Commission, as per Regulation 44 (1) of the RE Tariff Regulations, has specified the Bagasse fuel price during third year of the Control Period (i.e. FY 2022-23) in the following table. The fuel prices have been derived by escalating the notified prices of first year of control period by 5%. For each subsequent year of the Tariff Period, a normative escalation factor of 5% per annum shall be applicable, unless reviewed and ordered otherwise by the Commission.

States	Bagasse Price for FY 2021-22 (Rs/ MT)	Bagasse Price for FY 2022-23 (Rs/ MT)
Andhra Pradesh	1971.90	2070.50
Haryana	2804.55	2944.78
Maharashtra	2763.60	2901.78
Punjab	2468.55	2591.98
Tamil Nadu	2124.15	2230.36
Telangana	1970.85	2069.39
Uttar Pradesh	2199.75	2309.74
Other States	2387.7	2507.09

51. As per Regulation 55 of the RE Tariff Regulations, the biomass fuel price for Biomass gasifier based power projects applicable for FY 2022-23 shall be the same as for biomass based power projects based on Rankine cycle technology, as determined in accordance with Regulation 38 and proposed in Clause 49 of this Order
52. Regulation 61 of the RE Tariff Regulations has specified the feed stock price for Biogas based power projects during first year of the Control Period (FY 2020-21) at Rs.1422/MT. For each subsequent year of the Tariff Period, a normative escalation factor of 5% per annum shall be applicable, unless reviewed and ordered otherwise by the Commission. For third year of the Control Period (FY 2022-23), the Commission specified the feed stock price for Biogas based power projects as Rs 1567.176 /MT (5% escalation over last year price).

R. Subsidy or Incentives by State/Central Government

53. Regulation 22 (1) of the RE Tariff Regulations provides as under:

"The Commission shall take into consideration any incentive, grant or subsidy from the Central or State Government, including accelerated depreciation benefit if availed by the project while determining the tariff under these Regulations.

Provided that the following principles shall be considered for ascertaining income tax benefit on account of accelerated depreciation, if availed, for the purpose of tariff determination."

"1) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate and corporate income tax rate as per relevant provisions under Income Tax Act as amended from time to time

2) Capitalization of Renewable energy projects during second half of the fiscal year

3) Per unit benefit shall be derived on levelled basis at discount factor equivalent to weighted average cost of capital"

54. Capital subsidy provided by the Government as per prevailing scheme/policy has already been considered, while considering the capital cost of the project.
55. In terms of the above regulation, for the projects availing the benefit of accelerated depreciation, an applicable Corporate tax rate of 34.94% has been considered. For the purpose of determining net depreciation benefits, depreciation @ 5.28% as per straight line method (Book depreciation as per Companies Act, 1956) has been compared with depreciation as per Income Tax Act i.e. 40% of the written down value method. Moreover, additional 20% depreciation in the initial year is proposed to be extended to new assets acquired by power generation companies vide amendment in the section 32, sub-section (1) clause (iia) of the Income Tax Act.
56. Depreciation for the first year has been calculated at the rate of 50% of accelerated depreciation (40%) and 50% of additional depreciation (20%) (as project is capitalized during the second half of the financial year as per proviso to sub regulation (1) of Regulation 22). Income tax benefits of accelerated depreciation and additional depreciation have been worked out as per normal tax rate on the net depreciation benefit. Per unit levelled accelerated depreciation benefit has been computed considering the post- tax weighted average cost of capital as discount factor. Accelerated depreciation benefit has been computed as per existing provisions of Income Tax Act.
57. In the light of the discussion made in the preceding paragraphs, the generic tariffs of different RE projects for the financial year 2022-23 have been arrived at and are proposed as follows:

GENERIC TARIFF FOR RE TECHNOLOGIES FOR FY 2022-23

58. The Generic Tariff for RE Technologies computed for FY 2022-23 is shown in the subsequent Tables:

Particulars	Levelling Total Tariff (FY 2022-23) (Rs/kWh)
Small Hydro Power Project	
Himachal Pradesh, Uttarakhand, West Bengal, North Eastern States and Union Territories of Jammu and Kashmir & Ladakh. (Below 5 MW)	5.23
Himachal Pradesh, Uttarakhand, West Bengal, North Eastern States and Union Territories of Jammu and Kashmir & Ladakh. (5 MW to 25 MW)	4.76
Others States (Below 5 MW)	5.84
Others States (5 MW to 25 MW)	5.76

Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and travelling grate boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.70	5.52	8.22	0.11	8.10
Haryana	2.75	6.28	9.04	0.11	8.93
Maharashtra	2.77	6.43	9.19	0.11	9.08
Punjab	2.78	6.57	9.35	0.11	9.24
Rajasthan	2.69	5.49	8.18	0.11	8.07
Tamil Nadu	2.69	5.43	8.12	0.11	8.01
Telangana	2.69	5.52	8.22	0.11	8.10
UP	2.70	5.62	8.32	0.11	8.21
Others	2.73	5.90	8.63	0.11	8.52

Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and travelling grate boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)

	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	availed) (Rs/kWh)
AP	2.84	5.65	8.49	0.12	8.36
Haryana	2.90	6.43	9.33	0.12	9.20
Maharashtra	2.91	6.57	9.48	0.12	9.36
Punjab	2.92	6.72	9.65	0.12	9.52
Rajasthan	2.84	5.61	8.45	0.12	8.32
Tamil Nadu	2.83	5.55	8.39	0.12	8.26
Telangana	2.84	5.65	8.49	0.12	8.36
UP	2.85	5.74	8.59	0.12	8.47
Others	2.87	6.04	8.91	0.12	8.79

Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and travelling grate boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.80	5.52	8.32	0.12	8.20
Haryana	2.86	6.28	9.14	0.12	9.02
Maharashtra	2.87	6.43	9.30	0.12	9.17
Punjab	2.88	6.57	9.45	0.12	9.33
Rajasthan	2.80	5.49	8.28	0.12	8.16
Tamil Nadu	2.79	5.43	8.22	0.12	8.10
Telangana	2.80	5.52	8.32	0.12	8.20
UP	2.81	5.62	8.42	0.12	8.30
Others	2.83	5.90	8.73	0.12	8.61

Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and travelling grate boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.95	5.65	8.59	0.13	8.46
Haryana	3.00	6.43	9.43	0.13	9.30
Maharashtra	3.02	6.57	9.59	0.13	9.46

Punjab	3.03	6.72	9.75	0.13	9.62
Rajasthan	2.94	5.61	8.55	0.13	8.42
Tamil Nadu	2.94	5.55	8.49	0.13	8.36
Telangana	2.94	5.65	8.59	0.13	8.45
UP	2.95	5.74	8.70	0.13	8.56
Others	2.98	6.04	9.02	0.13	8.88

Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and AFBC boiler					
State	Levellised Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levellised tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.69	5.42	8.11	0.11	8.00
Haryana	2.75	6.17	8.92	0.11	8.81
Maharashtra	2.76	6.31	9.07	0.11	8.96
Punjab	2.77	6.45	9.22	0.11	9.11
Rajasthan	2.69	5.39	8.07	0.11	7.96
Tamil Nadu	2.68	5.33	8.02	0.11	7.90
Telangana	2.69	5.42	8.11	0.11	8.00
UP	2.70	5.52	8.21	0.11	8.10
Others	2.72	5.80	8.52	0.11	8.40

Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and AFBC boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.83	5.54	8.38	0.12	8.25
Haryana	2.89	6.31	9.20	0.12	9.08
Maharashtra	2.90	6.45	9.36	0.12	9.24
Punjab	2.91	6.60	9.52	0.12	9.39
Rajasthan	2.83	5.51	8.34	0.12	8.22
Tamil Nadu	2.83	5.45	8.28	0.12	8.16
Telangana	2.83	5.54	8.38	0.12	8.25
UP	2.84	5.64	8.48	0.12	8.36
Others	2.86	5.93	8.79	0.12	8.67

Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and AFBC boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.79	5.42	8.21	0.12	8.09
Haryana	2.85	6.17	9.02	0.12	8.90
Maharashtra	2.86	6.31	9.17	0.12	9.05
Punjab	2.87	6.45	9.33	0.12	9.20
Rajasthan	2.79	5.39	8.18	0.12	8.05
Tamil Nadu	2.79	5.33	8.12	0.12	8.00
Telangana	2.79	5.42	8.21	0.12	8.09
UP	2.79	5.52	8.32	0.12	8.19
Others	2.82	5.80	8.62	0.12	8.50

Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and AFBC boiler					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.94	5.54	8.48	0.13	8.35
Haryana	3.00	6.31	9.31	0.13	9.18
Maharashtra	3.01	6.45	9.46	0.13	9.33
Punjab	3.02	6.60	9.62	0.13	9.49
Rajasthan	2.94	5.51	8.45	0.13	8.31
Tamil Nadu	2.93	5.45	8.39	0.13	8.25
Telangana	2.94	5.54	8.48	0.13	8.35
UP	2.95	5.64	8.59	0.13	8.45
Others	2.97	5.93	8.90	0.13	8.76

Bagasse Based Co-generation Project					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.98	3.62	6.60	0.16	6.43
Haryana	2.69	5.15	7.84	0.14	7.70
Maharashtra	2.41	5.07	7.49	0.12	7.36
Punjab	2.64	4.53	7.17	0.14	7.03
Tamil Nadu	2.32	3.90	6.22	0.12	6.10
Telangana	2.57	3.62	6.19	0.14	6.05
UP	3.01	4.04	7.05	0.16	6.88
Others	2.63	4.38	7.01	0.14	6.87

Biomass Gasifier Power Project					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levelling tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
AP	2.66	5.09	7.75	0.08	7.67

Biomass Gasifier Power Project					
State	Levelling Fixed Cost	Variable Cost (FY 2022-23)	Applicable Tariff Rates (FY 2022-23)	Benefit of Accelerated Depreciation (if availed)	Net levellised tariff (upon adjusting for Accelerated Depreciation Benefit) (if availed)
Haryana	2.71	5.80	8.51	0.08	8.43
Maharashtra	2.72	5.93	8.65	0.08	8.57
Punjab	2.73	6.06	8.80	0.08	8.71
Rajasthan	6.65	5.06	7.72	0.08	7.63
Tamil Nadu	2.65	5.01	7.66	0.08	7.58
Telangana	2.66	5.09	7.75	0.08	7.67
UP	2.67	5.18	7.85	0.08	7.76
Others	2.69	5.45	8.13	0.08	8.05
Biogas based generation					
Biogas	3.40	5.34	8.75	0.16	8.59

59. The detailed computations for the generic tariff for various RE technologies have been enclosed with this draft Order as per the details given hereunder:

Sl.No.	Renewable Energy Projects	Annexure
A	Small Hydro Power Projects	
	<i>Projects Less than 5 MW for HP, Uttarakhand, West Bengal, Jammu and Kashmir, Ladakh and NE States</i>	<i>Annexure 1A</i>
	<i>Projects between 5 MW and 25 MW for HP, Uttarakhand, West Bengal, Jammu and Kashmir, Ladakh and NE States</i>	<i>Annexure 1B</i>
	<i>Projects less than 5 MW for other States</i>	<i>Annexure 1C</i>
	<i>Projects between 5 MW and 25 MW for other states</i>	<i>Annexure 1D</i>
B.1	Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and using Travelling Gate	
	<i>Andhra Pradesh</i>	<i>Annexure 2.1A</i>
	<i>Haryana</i>	<i>Annexure 2.1B</i>
	<i>Maharashtra</i>	<i>Annexure 2.1C</i>
	<i>Punjab</i>	<i>Annexure 2.1D</i>
	<i>Rajasthan</i>	<i>Annexure 2.1E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.1F</i>
	<i>Telangana</i>	<i>Annexure 2.1G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.1H</i>
	<i>Others</i>	<i>Annexure 2.1I</i>
B.2	Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Air	

Sl.No.	Renewable Energy Projects	Annexure
	Cooled Condenser and using Travelling Grate boiler	
	<i>Andhra Pradesh</i>	<i>Annexure 2.2A</i>
	<i>Haryana</i>	<i>Annexure 2.2B</i>
	<i>Maharashtra</i>	<i>Annexure 2.2C</i>
	<i>Punjab</i>	<i>Annexure 2.2D</i>
	<i>Rajasthan</i>	<i>Annexure 2.2E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.2F</i>
	<i>Telangana</i>	<i>Annexure 2.2G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.2H</i>
	<i>Others</i>	<i>Annexure 2.2I</i>
B.3	Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and using Travelling Grate boiler	
	<i>Andhra Pradesh</i>	<i>Annexure 2.3A</i>
	<i>Haryana</i>	<i>Annexure 2.3B</i>
	<i>Maharashtra</i>	<i>Annexure 2.3C</i>
	<i>Punjab</i>	<i>Annexure 2.3D</i>
	<i>Rajasthan</i>	<i>Annexure 2.3E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.3F</i>
	<i>Telangana</i>	<i>Annexure 2.3G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.3H</i>
	<i>Others</i>	<i>Annexure 2.3I</i>
B.4	Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and using Travelling Grate boiler	
	<i>Andhra Pradesh</i>	<i>Annexure 2.4A</i>
	<i>Haryana</i>	<i>Annexure 2.4B</i>
	<i>Maharashtra</i>	<i>Annexure 2.4C</i>
	<i>Punjab</i>	<i>Annexure 2.4D</i>
	<i>Rajasthan</i>	<i>Annexure 2.4E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.4F</i>
	<i>Telangana</i>	<i>Annexure 2.4G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.4H</i>
	<i>Others</i>	<i>Annexure 2.4I</i>
B.5	Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with	

Sl.No.	Renewable Energy Projects	Annexure
	Water Cooled Condenser and using AFBC boiler	
	<i>Andhra Pradesh</i>	<i>Annexure 2.5A</i>
	<i>Haryana</i>	<i>Annexure 2.5B</i>
	<i>Maharashtra</i>	<i>Annexure 2.5C</i>
	<i>Punjab</i>	<i>Annexure 2.5D</i>
	<i>Rajasthan</i>	<i>Annexure 2.5E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.5F</i>
	<i>Telangana</i>	<i>Annexure 2.5G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.5H</i>
	<i>Others</i>	<i>Annexure 2.5I</i>
B.6	Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and using AFBC	
	<i>Andhra Pradesh</i>	<i>Annexure 2.6A</i>
	<i>Haryana</i>	<i>Annexure 2.6B</i>
	<i>Maharashtra</i>	<i>Annexure 2.6C</i>
	<i>Punjab</i>	<i>Annexure 2.6D</i>
	<i>Rajasthan</i>	<i>Annexure 2.6E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.6F</i>
	<i>Telangana</i>	<i>Annexure 2.6G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.6H</i>
	<i>Others</i>	<i>Annexure 2.6I</i>
B.7	Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and using AFBC boiler	
	<i>Andhra Pradesh</i>	<i>Annexure 2.7A</i>
	<i>Haryana</i>	<i>Annexure 2.7B</i>
	<i>Maharashtra</i>	<i>Annexure 2.7C</i>
	<i>Punjab</i>	<i>Annexure 2.7D</i>
	<i>Rajasthan</i>	<i>Annexure 2.7E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.7F</i>
	<i>Telangana</i>	<i>Annexure 2.7G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.7H</i>
	<i>Others</i>	<i>Annexure 2.7I</i>
B.8	Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and using AFBC boiler	

Sl.No.	Renewable Energy Projects	Annexure
	<i>Andhra Pradesh</i>	<i>Annexure 2.8A</i>
	<i>Haryana</i>	<i>Annexure 2.8B</i>
	<i>Maharashtra</i>	<i>Annexure 2.8C</i>
	<i>Punjab</i>	<i>Annexure 2.8D</i>
	<i>Rajasthan</i>	<i>Annexure 2.8E</i>
	<i>Tamil Nadu</i>	<i>Annexure 2.8F</i>
	<i>Telangana</i>	<i>Annexure 2.8G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 2.8H</i>
	<i>Others</i>	<i>Annexure 2.8I</i>
C	Non-Fossil Fuel Based Cogeneration	
	<i>Andhra Pradesh</i>	<i>Annexure 3A</i>
	<i>Haryana</i>	<i>Annexure 3B</i>
	<i>Maharashtra</i>	<i>Annexure 3C</i>
	<i>Punjab</i>	<i>Annexure 3D</i>
	<i>Tamil Nadu</i>	<i>Annexure 3E</i>
	<i>Telangana</i>	<i>Annexure 3F</i>
	<i>Uttar Pradesh</i>	<i>Annexure 3G</i>
	<i>Others</i>	<i>Annexure 3H</i>
D	Biomass Gasifier Power Projects	
	<i>Andhra Pradesh</i>	<i>Annexure 4A</i>
	<i>Haryana</i>	<i>Annexure 4B</i>
	<i>Maharashtra</i>	<i>Annexure 4C</i>
	<i>Punjab</i>	<i>Annexure 4D</i>
	<i>Rajasthan</i>	<i>Annexure 4E</i>
	<i>Tamil Nadu</i>	<i>Annexure 4F</i>
	<i>Telangana</i>	<i>Annexure 4G</i>
	<i>Uttar Pradesh</i>	<i>Annexure 4H</i>
	<i>Others</i>	<i>Annexure 4I</i>
E	Biogas Power Projects	<i>Annexure 5A</i>

RE Tariff Proposal for FY 2022-23

Annexure 1A					
Assumption for Small Hydro based Project Parameters: Himachal Pradesh, Uttarakhand, WB, UT of J&K, Ladakh, North Eastern States <=5MW					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	45%
			Auxiliary Consumption	%	1.00%
			Useful Life	Years	40
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	1100.00
3	Sources of Fund	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	770.00
			Total Equity Amount	Rs Lakh	330.00
		<u>Debt Component</u>	Loan Amount	Rs Lakh	770.00
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lacs	330.00
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	0.80%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M expenses)		15.00%
		Receivables for Debtors		Months	1.5
		Interest On Working Capital		%	10.62%
6	Operation & Maintenance	O&M Cost of power plant		Rs Lakh	45.05
		Total O & M Expenses Escalation		%	3.84%
7	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Small Hydro Projects

Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Net Generation	MU		3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91

Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M Expenses	Rs Lakh		45.05	46.78	48.58	50.44	52.38	54.39	56.46	58.65	60.90	63.24	65.67	68.19	70.81	73.53	76.35	79.28	82.33	85.49	88.77	92.16	95.72	99.39	103.21	107.17	111.29	115.56	120.00	124.61	129.39	134.36	139.52	144.88	150.44	156.22	162.22	168.45	174.91	181.63	188.61	195.85			
Depreciation	Rs Lakh		51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	
Interest on term loan	Rs Lakh		67.86	63.18	58.50	53.82	49.14	44.46	39.78	35.10	30.42	25.74	21.06	16.38	11.70	7.02	2.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh		4.09	4.10	4.10	4.11	4.12	4.14	4.16	4.18	4.20	4.23	4.26	4.29	4.33	4.37	4.42	3.93	4.05	4.17	4.29	4.43	4.76	4.91	5.05	5.21	5.36	5.53	5.70	5.88	6.06	6.25	6.45	6.66	6.87	7.10	7.33	7.57	7.82	8.08	8.35	8.62			
Return on Equity	Rs Lakh		55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	
Total Fixed Cost	Rs Lakh		224.32	221.37	218.50	215.69	212.96	210.30	207.73	205.24	202.84	200.52	198.30	196.18	194.15	192.23	190.42	147.99	151.15	154.43	157.84	161.38	180.30	184.11	188.08	192.19	196.47	200.91	205.52	210.30	215.27	220.43	225.79	231.35	237.13	243.13	249.36	255.83	262.55	269.52	276.77	284.29			

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
O&M expn	Rs/kWh	1.82	1.15	1.20	1.24	1.29	1.34	1.39	1.45	1.50	1.56	1.62	1.68	1.75	1.81	1.88	1.96	2.03	2.11	2.19	2.27	2.36	2.45	2.55	2.64	2.74	2.85	2.96	3.07	3.19	3.31	3.44	3.57	3.71	3.85	4.00	4.15	4.31	4.48	4.65	4.83	5.02		
Depreciation	Rs/kWh	1.02	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
Int. on term loan	Rs/kWh	0.78	1.74	1.62	1.50	1.38	1.26	1.14	1.02	0.90	0.78	0.66	0.54	0.42	0.30	0.18	0.06	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.11	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.11	0.11	0.11	0.12	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.21	0.21	0.22		
RoE	Rs/kWh	1.50	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
Total COG	Rs/kWh	5.23	5.74	5.67	5.59	5.52	5.45	5.39	5.32	5.26	5.19	5.13	5.08	5.02	4.97	4.92	4.88	3.79	3.87	3.95	4.04	4.13	4.62	4.71	4.82	4.92	5.03	5.14	5.26	5.39	5.51	5.64	5.78	5.92	6.07	6.23	6.39	6.55	6.72	6.90	7.09	7.28		

Levillised Tariff	5.23	Rs/Unit
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RE Tariff Proposal for FY 2022-23

Annexure 1B							
Assumption for Small Hydro based Project Parameters : Himachal Pradesh, Uttarakhand, WB, UT of J&K, Ladakh, North Eastern States - >5 MW upto 25MW							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Capacity Utilization Factor	%	45%		
			Auxiliary Consumption	%	1.00%		
			Useful Life	Years	40		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	1100.00		
3	Sources of Fund	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	770.00		
			Total Equity Amount	Rs Lakh	330.00		
		<u>Debt Component</u>	Loan Amount	Rs Lakh	770.00		
			Moratorium Period	years	0		
			Repayment Period	years	15		
			Interest Rate	%	9.12%		
		<u>Equity Component</u>	Equity amount	Rs Lacs	330.00		
			Return on Equity (upto 20 years)	% p.a	16.96%		
			Return on Equity (after 20 years)	% p.a	21.52%		
			Discount Rate		8.35%		
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
					MAT Rate	%	17.47%
<u>Depreciation</u>	Depreciation Rate(Power Plant)			%	4.67%		
	Depreciation Rate 16th year onwards			%	0.80%		
Working Capital	<u>For Fixed Charges</u>						
		O&M Charges		Months	1		
		Maintenance Spare	(% of O&M expenses)		15.00%		
		Receivables for Debtors		Months	1.5		
		Interest On Working Capital		%	10.62%		
6	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	33.79		
			Total O & M Expenses Escalation	%	3.84%		
7	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Small Hydro Projects

Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Net Generation	MU		3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91

Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M Expenses	Rs Lakh		33.79	35.09	36.44	37.84	39.29	40.80	42.37	43.99	45.68	47.44	49.26	51.15	53.11	55.15	57.27	59.47	61.75	64.13	66.59	69.14	71.80	74.56	77.42	80.39	83.48	86.69	90.01	93.47	97.06	100.79	104.66	108.68	112.85	117.18	121.68	126.35	131.21	136.25	141.48	146.91			
Depreciation	Rs Lakh		51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	51.33	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	
Interest on term loan	Rs Lakh		67.86	63.18	58.50	53.82	49.14	44.46	39.78	35.10	30.42	25.74	21.06	16.38	11.70	7.02	2.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh		3.66	3.65	3.64	3.63	3.62	3.61	3.61	3.61	3.61	3.62	3.63	3.64	3.65	3.66	3.68	3.16	3.25	3.34	3.44	3.54	3.84	3.95	4.06	4.17	4.29	4.42	4.54	4.68	4.82	4.96	5.11	5.26	5.42	5.59	5.77	5.95	6.13	6.33	6.53	6.74			
Return on Equity	Rs Lakh		55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	55.98	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	71.02	
Total Fixed Cost	Rs Lakh		212.63	209.23	205.89	202.60	199.37	196.19	193.07	190.02	187.03	184.11	181.26	178.48	175.78	173.15	170.61	127.42	129.79	132.25	134.81	137.46	155.46	158.32	161.29	164.38	167.59	170.92	174.37	177.96	181.69	185.56	189.58	193.76	198.09	202.59	207.26	212.12	217.16	222.39	227.82	233.46			

Levelling tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M expn	Rs/kWh	1.36	0.87	0.90	0.93	0.97	1.01	1.04	1.08	1.13	1.17	1.21	1.26	1.31	1.36	1.41	1.47	1.52	1.58	1.64	1.71	1.77	1.84	1.91	1.98	2.06	2.14	2.22	2.30	2.39	2.49	2.58	2.68	2.78	2.89	3.00	3.12	3.24	3.36	3.49	3.62	3.76		
Depreciation	Rs/kWh	1.02	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
Int. on term loan	Rs/kWh	0.78	1.74	1.62	1.50	1.38	1.26	1.14	1.02	0.90	0.78	0.66	0.54	0.42	0.30	0.18	0.06	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17		
RoE	Rs/kWh	1.50	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	
Total COG	Rs/kWh	4.76	5.44	5.36	5.27	5.19	5.11	5.02	4.94	4.87	4.79	4.71	4.64	4.57	4.50	4.43	4.37	3.26	3.32	3.39	3.45	3.52	3.98	4.05	4.13	4.21	4.29	4.38	4.47	4.56	4.65	4.75	4.85	4.96	5.07	5.19	5.31	5.43	5.56	5.69	5.83	5.98		

Levelling Tariff	4.76	Rs/Unit
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RE Tariff Proposal for FY 2022-23

Annexure 1C					
Assumption for Small Hydro based Project Parameters: Other States - <= 5 MW					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Other States - <= 5 MW
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	30%
			Auxiliary Consumption	%	1.00%
			Useful Life	Years	40
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	780.00
3	Sources of Fund	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs. Lakh	546.00
			Total Equity Amount	Rs Lakh	234.00
		<u>Debt Component</u>	Loan Amount	Rs Lakh	546.00
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lacs	234.00
			Return on Equity (upto 20 years)	% p.a	16.96%
	Return on Equity (after 20 years)	% p.a	21.52%		
	Discount Rate		8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	0.80%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
	Interest On Working Capital		%	10.62%	
6	Operation & Maintenance	O&M Cost of power plant		Rs Lakh	36.29
		Total O & M Expenses Escalation		%	3.84%
7	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Small Hydro Projects

Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Net Generation	MU		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60

Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M Expenses	Rs Lakh		36.29	37.69	39.14	40.64	42.20	43.82	45.50	47.25	49.06	50.95	52.90	54.94	57.05	59.24	61.51	63.87	66.33	68.87	71.52	74.26	77.11	80.08	83.15	86.34	89.66	93.10	96.68	100.39	104.24	108.25	112.40	116.72	121.20	125.86	130.69	135.71	140.92	146.33	151.95	157.79			
Depreciation	Rs Lakh		36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	36.40	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	6.24	
Interest on term loan	Rs Lakh		48.12	44.80	41.48	38.16	34.85	31.53	28.21	24.89	21.57	18.25	14.93	11.62	8.30	4.98	1.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh		3.07	3.08	3.09	3.10	3.12	3.14	3.16	3.18	3.21	3.23	3.26	3.30	3.33	3.37	3.42	3.08	3.18	3.27	3.38	3.48	3.73	3.85	3.97	4.09	4.22	4.35	4.49	4.63	4.78	4.93	5.10	5.26	5.43	5.61	5.80	5.99	6.19	6.40	6.62	6.84			
Return on Equity	Rs Lakh		39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70
Total Fixed Cost	Rs Lakh		163.58	161.66	159.80	158.00	156.26	154.58	152.96	151.41	149.94	148.53	147.20	145.94	144.77	143.68	142.68	112.89	115.44	118.08	120.83	123.68	137.45	140.52	143.71	147.03	150.47	154.05	157.76	161.62	165.62	169.78	174.10	178.58	183.23	188.07	193.09	198.30	203.71	209.33	215.17	221.23			

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M expn	Rs/kWh	2.20	1.39	1.45	1.50	1.56	1.62	1.68	1.75	1.81	1.88	1.96	2.03	2.11	2.19	2.28	2.36	2.45	2.55	2.65	2.75	2.85	2.96	3.08	3.19	3.32	3.44	3.58	3.71	3.86	4.00	4.16	4.32	4.48	4.66	4.83	5.02	5.21	5.41	5.62	5.84	6.06		
Depreciation	Rs/kWh	1.08	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	
Int. on term loan	Rs/kWh	0.83	1.85	1.72	1.59	1.47	1.34	1.21	1.08	0.96	0.83	0.70	0.57	0.45	0.32	0.19	0.06	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.13	0.13	0.13	0.13	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.22	0.22	0.23	0.24	0.25	0.25	0.26		
RoE	Rs/kWh	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	
Total COG	Rs/kWh	5.84	6.28	6.21	6.14	6.07	6.00	5.94	5.88	5.82	5.76	5.70	5.65	5.61	5.56	5.52	5.48	4.34	4.43	4.54	4.64	4.75	5.28	5.40	5.52	5.65	5.78	5.92	6.06	6.21	6.36	6.52	6.69	6.86	7.04	7.22	7.42	7.62	7.82	8.04	8.26	8.50		

Levelised Tariff	5.84	Rs/Unit
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RE Tariff Proposal for FY 2022-23

Annexure 1D							
Assumption for Small Hydro based Project Parameters: Other States - >5 MW upto 25MW							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Other States - >5 MW upto 25MW		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Capacity Utilization Factor	%	30%		
			Auxiliary Consumption	%	1.00%		
			Useful Life	Years	40		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	900.00		
3	Sources of Fund	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	630.00		
			Total Equity Amout	Rs Lakh	270.00		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	630.00	
				Moratorium Period	years	0	
				Repayment Period	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lacs	270.00
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (after 20 years)	% p.a	21.52%	
				Discount Rate		8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	0.80%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			-				
		Interest On Working Capital		%	10.62%		
6	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	26.28		
			Total O & M Expenses Escalation	%	3.84%		
7	Generation & Sale of Energy		Total No .Of Hours	Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Small Hydro Projects

Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Net Generation	MU		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60

Fixed Cost	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
O&M Expenses	Rs Lakh		26.28	27.29	28.33	29.42	30.55	31.73	32.94	34.21	35.52	36.89	38.30	39.77	41.30	42.89	44.53	46.24	48.02	49.86	51.78	53.77	55.83	57.98	60.20	62.51	64.91	67.41	69.99	72.68	75.47	78.37	81.38	84.51	87.75	91.12	94.62	98.25	102.03	105.94	110.01	114.24			
Depreciation	Rs Lakh		42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	
Interest on term loan	Rs Lakh		55.52	51.69	47.86	44.04	40.21	36.38	32.55	28.72	24.89	21.06	17.23	13.40	9.57	5.74	1.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh		2.94	2.93	2.92	2.91	2.90	2.89	2.89	2.89	2.89	2.89	2.89	2.90	2.91	2.92	2.50	2.56	2.64	2.71	2.79	3.03	3.11	3.20	3.29	3.38	3.48	3.58	3.68	3.79	3.90	4.02	4.14	4.26	4.39	4.53	4.67	4.81	4.96	5.12	5.28				
Return on Equity	Rs Lakh		45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	45.80	
Total Fixed Cost	Rs Lakh		172.54	169.71	166.92	164.17	161.46	158.80	156.18	153.62	151.10	148.64	146.23	143.87	141.58	139.35	137.17	101.74	103.59	105.50	107.49	109.56	124.17	126.39	128.70	131.11	133.60	136.19	138.88	141.67	144.57	147.58	150.70	153.95	157.32	160.82	164.45	168.22	172.14	176.21	180.44	184.82			

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
O&M expn	Rs/kWh	1.59	1.01	1.05	1.09	1.13	1.17	1.22	1.27	1.31	1.36	1.42	1.47	1.53	1.59	1.65	1.71	1.78	1.84	1.92	1.99	2.07	2.14	2.23	2.31	2.40	2.49	2.59	2.69	2.79	2.90	3.01	3.13	3.25	3.37	3.50	3.63	3.77	3.92	4.07	4.23	4.39	
Depreciation	Rs/kWh	1.25	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	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	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Int. on term loan	Rs/kWh	0.96	2.13	1.99	1.84	1.69	1.54	1.40	1.25	1.10	0.96	0.81	0.66	0.51	0.37	0.22	0.07	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	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.11	0.12	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.20	0.20		
RoE	Rs/kWh	1.84	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23	
Total COG	Rs/kWh	5.76	6.63	6.52	6.41	6.31	6.20	6.10	6.00	5.90	5.80	5.71	5.62	5.53	5.44	5.35	5.27	3.91	3.98	4.05	4.13	4.21	4.77	4.85	4.94	5.04	5.13	5.23	5.33	5.44	5.55	5.67	5.79	5.91	6.04	6.18	6.32	6.46	6.61	6.77	6.93	7.10	

Levillised Tariff	5.76	Rs/Unit
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RE Tariff Proposal for FY 2022-23

Annexure 2.1A							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
			Total Equity Amount	Rs Lakh	167.70		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	3666.92	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.40	365.82	384.11	403.32	423.48	444.66	466.89	490.24	514.75	540.48	567.51	595.88	625.68	656.96	689.81	724.30	760.52	798.54	838.47	880.39	924.41	970.63	1,019.16	1,070.12	1,123.63
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.31	21.21	22.16	23.15	24.20	25.30	26.45	27.66	28.94	30.27	31.68	33.15	34.70	36.33	38.04	39.85	41.57	43.58	45.69	47.90	50.32	52.76	55.32	58.00	60.82
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		159.38	159.83	160.39	161.08	161.90	162.86	163.95	165.20	166.59	168.15	169.88	171.77	173.85	176.12	178.59	181.36	184.44	187.94	191.87	196.25	201.09	206.40	212.19	218.48	225.28

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.65	5.52	5.80	6.09	6.39	6.71	7.05	7.40	7.77	8.16	8.56	8.99	9.44	9.91	10.41	10.93	11.48	12.05	12.65	13.28	13.95	14.65	15.38	16.15	16.96	17.80
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	0.96
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh	11.34	8.05	8.33	8.63	8.94	9.27	9.63	10.00	10.38	10.80	11.23	11.68	12.16	12.67	13.20	13.76	14.33	14.79	15.48	16.20	16.96	17.88	18.71	19.59	20.51	21.47

Variable Cost (Rs/Unit)	5.52
Levillised Tariff (Fixed) (Rs/Unit)	2.70
Levillised Tariff(Rs/Unit)	8.22

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.00%	35.00%	21.00%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1B						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
<u>For Fixed Charges</u>						
O&M Charges	Months	1				
Maintenance Spare	(% of O&M exepenses)		15.00%			
Receivables for Debtors	Months	1.5				
<u>For Variable Charges</u>						
Biomass Stock	Months	4				
Interest On Working Capital	%	10.62%				
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	4174.07
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		396.59	416.42	437.24	459.10	482.05	506.16	531.46	558.04	585.94	615.24	646.00	678.30	712.21	747.82	785.21	824.48	865.70	908.98	954.43	#####	1,052.26	1,104.88	1,160.12	1,218.13	1,279.03
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.69	23.71	24.78	25.90	27.09	28.33	29.63	31.01	32.45	33.96	35.55	37.22	38.97	40.81	42.74	44.59	46.75	49.02	51.40	53.90	56.63	59.38	62.27	65.30	68.48
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		161.76	162.32	163.01	163.83	164.79	165.89	167.14	168.54	170.10	171.84	173.75	175.84	178.12	180.61	183.30	172.30	177.85	183.63	189.66	195.95	210.25	217.08	224.21	231.64	239.40

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.84	6.28	6.60	6.93	7.27	7.64	8.02	8.42	8.84	9.28	9.75	10.24	10.75	11.28	11.85	12.44	13.06	13.72	14.40	15.12	15.88	16.67	17.51	18.38	19.30	20.27
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.54	0.36	0.38	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	0.71	0.74	0.78	0.81	0.85	0.90	0.94	0.99	1.03	1.09
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh	12.60	8.85	9.17	9.51	9.87	10.25	10.65	11.07	11.51	11.98	12.47	12.99	13.53	14.11	14.71	15.35	15.79	16.53	17.31	18.13	18.98	20.00	20.95	21.93	22.97	24.06

Variable Cost (Rs/Unit)	6.28
Levillised Tariff (Fixed) (Rs/Unit)	2.75
Levillised Tariff (Rs/Unit)	9.04

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1C							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
					Total Equity Amount	Rs Lakh	167.70
				<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
					Moratorium Period	years	0
					Repayment Period(incld Moratorium)	years	15
					Interest Rate	%	9.12%
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
					Return on Equity (upto 20 years)	% p.a	16.96%
					Return on Equity (After 20 years)		21.52%
					Discount Rate (equiv. to WACC)	%	8.35%
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
MAT Rate	%				17.47%		
	<u>Depreciation</u>			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4268.88	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O & M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		

RE Tariff Proposal for FY 2022-23

8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766
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RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		405.60	425.88	447.17	469.53	493.00	517.65	543.54	570.71	599.25	629.21	660.67	693.71	728.39	764.81	803.05	843.20	885.36	929.63	976.11	#####	1,076.17	1,129.97	1,186.47	1,245.80	1,308.09

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		23.13	24.17	25.27	26.42	27.63	28.90	30.23	31.63	33.10	34.65	36.27	37.98	39.77	41.65	43.62	45.71	47.92	50.04	52.47	55.03	57.81	60.62	63.57	66.66	69.91
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		162.20	162.79	163.50	164.35	165.33	166.46	167.73	169.17	170.76	172.53	174.47	176.60	178.92	181.44	184.18	187.23	190.62	194.36	198.47	202.97	207.87	213.18	218.91	225.07	231.64

Levelised tariff corresponding to Useful Life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	10.07	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	14.73	15.47	16.24	17.05	17.90	18.80	19.74	20.73
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.55	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83	0.87	0.92	0.96	1.01	1.06	1.11
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh	12.83	9.00	9.33	9.68	10.04	10.43	10.84	11.27	11.72	12.20	12.70	13.23	13.79	14.38	14.99	15.64	16.10	16.86	17.65	18.49	19.36	20.40	21.36	22.37	23.43	24.54

Variable Cost (Rs/Unit)	6.43
Levelised Tariff (Fixed) (Rs/Unit)	2.77
Levelised Tariff(Rs/Unit)	9.19

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years ----->>	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levelised (Rs./Unit)	6.79
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1D							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
			Total Equity Amount	Rs Lakh	167.70		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
	MAT Rate			%	17.47%		
	<u>Depreciation</u>			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital			<u>For Fixed Charges</u>			
				O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%		
		Receivables for Debtors		Months	1.5		
		<u>For Variable Charges</u>					
		Biomass Stock		Months	4		
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4365.90	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		414.81	435.55	457.33	480.20	504.21	529.42	555.89	583.68	612.87	643.51	675.69	709.47	744.95	782.19	821.30	862.37	905.49	950.76	998.30	#####	1,100.62	1,155.65	1,213.44	1,274.11	1,337.81
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		23.58	24.65	25.77	26.94	28.18	29.48	30.84	32.27	33.77	35.35	37.01	38.76	40.58	42.51	44.52	46.46	48.71	51.08	53.57	56.18	59.01	61.89	64.90	68.06	71.38
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	36.09	36.09	36.09	36.09	36.09
Total Fixed Cost	Rs Lakh		162.66	163.27	164.00	164.87	165.88	167.04	168.34	169.80	171.43	173.23	175.21	177.38	179.74	182.30	185.08	174.17	179.81	185.69	191.82	198.22	212.63	219.59	226.84	234.41	242.30

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.30	6.57	6.90	7.25	7.61	7.99	8.39	8.81	9.25	9.71	10.20	10.71	11.24	11.80	12.39	13.01	13.66	14.35	15.06	15.82	16.61	17.44	18.31	19.23	20.19	21.20
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.57	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.61	0.64	0.67	0.71	0.74	0.77	0.81	0.85	0.89	0.94	0.98	1.03	1.08	1.13
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	13.07	9.15	9.49	9.84	10.22	10.62	11.03	11.47	11.94	12.43	12.94	13.48	14.05	14.65	15.28	15.95	16.42	17.20	18.01	18.86	19.75	20.81	21.79	22.82	23.90	25.04

Variable Cost (Rs/Unit)	6.57
Levilled Tariff (Fixed) (Rs/Unit)	2.78
Levilled Tariff(Rs/Unit)	9.35

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	6.79
Electricity Generation (Levilled) (Rs./Unit)	6.04
Levilled benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1E							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
			Total Equity Amout	Rs Lakh	167.70		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors	Months	1.5		
			<u>For Variable Charges</u>				
			Biomass Stock	Months	4		
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	3643.76	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU			6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh			346.20	363.51	381.69	400.77	420.81	441.85	463.94	487.14	511.50	537.07	563.93	592.12	621.73	652.81	685.46	719.73	755.71	793.50	833.18	874.83	918.58	964.50	1,012.73	1,063.37	1,116.53
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh			50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh			26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh			34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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			20.20	21.10	22.04	23.03	24.07	25.16	26.30	27.51	28.78	30.10	31.50	32.97	34.51	36.13	37.82	39.42	41.33	43.33	45.42	47.63	50.04	52.46	55.00	57.67	60.47
Return on Equity	Rs Lakh			28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh			159.28	159.71	160.27	160.96	161.77	162.72	163.81	165.04	166.43	167.98	169.70	171.59	173.66	175.92	178.38	181.14	184.23	187.66	191.44	195.58	200.09	205.00	210.34	216.14	222.43

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh			8.59	5.49	5.76	6.05	6.35	6.67	7.00	7.35	7.72	8.10	8.51	8.93	9.38	9.85	10.34	10.86	11.40	11.97	12.57	13.20	13.86	14.55	15.28	16.05	16.85	17.69
O&M expn	Rs/kWh			1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh			0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	
Int. on term loan	Rs/kWh			0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh			0.48	0.32	0.33	0.35	0.36	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.62	0.65	0.69	0.72	0.75	0.79	0.83	0.87	0.91	0.96
RoE	Rs/kWh			0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh			11.29	8.01	8.29	8.59	8.90	9.23	9.58	9.95	10.33	10.74	11.17	11.62	12.10	12.60	13.13	13.69	14.05	14.71	15.39	16.11	16.87	17.78	18.61	19.48	20.40	21.36

Variable Cost (Rs/Unit)	5.49
Levillised Tariff (Fixed) (Rs/Unit)	2.69
Levillised Tariff (Rs/Unit)	8.18

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15	

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1F					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	1
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	10.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	391.30
			Total Equity Amount	Rs Lakh	167.70
		<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (After 20 years)		21.52%
			Discount Rate (equiv. to WACC)	%	8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
		Interest On Working Capital		%	10.62%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>	Base Price	Rs/T	3607.38
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.74	359.88	377.88	396.77	416.61	437.44	459.31	482.28	506.39	531.71	558.30	586.21	615.52	646.30	678.61	712.54	748.17	785.58	824.86	866.10	909.40	954.87	1,002.62	1,052.75	1,105.39
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.03	20.92	21.85	22.83	23.86	24.94	26.08	27.27	28.52	29.84	31.22	32.68	34.20	35.80	37.49	39.07	40.96	42.94	45.01	47.19	49.58	51.98	54.50	57.14	59.92
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		159.10	159.54	160.09	160.76	161.56	162.50	163.58	164.80	166.18	167.72	169.42	171.30	173.35	175.60	178.04	166.78	172.05	177.55	183.27	189.24	203.20	209.68	216.44	223.49	230.83

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs./kWh	8.51	5.43	5.70	5.99	6.29	6.60	6.93	7.28	7.64	8.02	8.42	8.85	9.29	9.75	10.24	10.75	11.29	11.85	12.45	13.07	13.72	14.41	15.13	15.89	16.68	17.51
O&M expn	Rs./kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs./kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs./kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs./kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.79	0.82	0.86	0.91	0.95
RoE	Rs./kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs./kWh	11.20	7.95	8.23	8.52	8.83	9.16	9.51	9.87	10.28	10.66	11.08	11.53	12.00	12.50	13.02	13.57	13.93	14.58	15.26	15.97	16.72	17.63	18.48	19.31	20.22	21.17

Variable Cost (Rs/Unit)	5.43
Levillised Tariff (Fixed) (Rs/Unit)	2.69
Levillised Tariff(Rs/Unit)	8.12

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs/Unit)	6.79
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1G							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	1		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
			Total Equity Amout	Rs Lakh	167.70		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
		Discount Rate (equiv. to WACC)	%	8.35%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	3666.92	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Annexure 2.1H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			Debt Component	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	Fiscal Assumptions	Income Tax
MAT Rate	%	17.47%				
Depreciation	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	For Fixed Charges				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			For Variable Charges			
			Biomass Stock	Months	4	
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			Biomass	Base Price	Rs/T	3730.86
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
			O&M Expenses	Rs Lakh	50.05	
7	Operation & Maintenance	O & M Expenses Escalation		%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		354.48	372.20	390.81	410.35	430.87	452.41	475.03	498.78	523.72	549.91	577.41	606.28	636.59	668.42	701.84	736.93	773.78	812.47	853.09	895.75	940.53	987.56	1,036.94	1,088.78	1,143.22
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.61	21.52	22.49	23.50	24.56	25.68	26.85	28.08	29.38	30.74	32.17	33.67	35.24	36.90	38.63	40.27	42.22	44.26	46.41	48.66	51.12	53.60	56.20	58.92	61.78
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	36.09	36.09	36.09	36.09	36.09
Total Fixed Cost	Rs Lakh		159.68	160.14	160.72	161.43	162.27	163.24	164.35	165.62	167.04	168.62	170.36	172.29	174.39	176.69	179.18	181.99	185.32	188.87	192.66	196.70	201.04	205.77	210.88	216.37	222.24

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.80	5.62	5.90	6.19	6.50	6.83	7.17	7.53	7.90	8.30	8.71	9.15	9.61	10.09	10.59	11.12	11.68	12.26	12.87	13.52	14.19	14.90	15.65	16.43	17.25	18.11
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.44	0.47	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.74	0.77	0.81	0.85	0.89	0.93	0.98
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57	
Total COG	Rs/kWh	11.50	8.15	8.43	8.74	9.06	9.40	9.75	10.13	10.53	10.94	11.38	11.85	12.34	12.85	13.39	13.96	14.54	15.01	15.71	16.44	17.21	18.15	18.99	19.89	20.82	21.80

Levillised

Variable Cost (Rs/Unit)	5.62
Levillised Tariff (Fixed) (Rs/Unit)	2.70
Levillised Tariff(Rs/Unit)	8.32

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.1 I						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Others						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559.00	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
Return on Equity (After 20 years)		21.52%				
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
Interest On Working Capital	%	10.62%				
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3921.59
			GCV-Biomass	Kcal/kg	3100.00	
			-	Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->																									
Installed Capacity		MW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Net Generation		MU	6.31	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	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost		Unit	Year-->																									
Biomass Cost		Rs. Lakh	372.60	391.23	410.79	431.33	452.90	475.54	499.32	524.28	550.50	578.02	606.92	637.27	669.13	702.59	737.72	774.61	813.34	854.00	896.70	941.54	988.62	1,038.03	1,089.95	1,144.45	1,201.67	
Fixed Cost		Unit	Year-->																									
O&M Expenses		Rs. Lakh	50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65	
Depreciation		Rs. Lakh	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan		Rs. Lakh	34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	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	21.50	22.46	23.47	24.53	25.65	26.82	28.05	29.34	30.70	32.12	33.62	35.19	36.85	38.58	40.40	42.13	44.17	46.31	48.56	50.91	53.49	56.09	58.81	61.67	64.67	
Return on Equity		Rs. Lakh	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost		Rs. Lakh	169.59	161.08	161.71	162.46	163.35	164.38	165.55	166.98	168.36	170.00	171.82	173.81	176.00	178.37	180.95	183.84	187.07	190.62	194.51	198.74	203.31	208.23	213.51	219.15	225.16	

Levelised tariff corresponding to Useful Life

Per Unit Cost of Generation		Unit	Year-->																									
Per unit Variable Cost		Rs./kWh	9.25	8.90	8.55	8.20	7.85	7.50	7.15	6.80	6.45	6.10	5.75	5.40	5.05	4.70	4.35	4.00	3.65	3.30	2.95	2.60	2.25	1.90	1.55	1.20	0.85	
O&M expn		Rs./kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	
Depreciation		Rs./kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	
Int. on term loan		Rs./kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital		Rs./kWh	0.84	0.34	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.73	0.77	0.81	0.85	0.89	0.93	0.98	
Retn.		Rs./kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Total COG		Rs./kWh	11.97	8.45	8.75	9.07	9.41	9.76	10.14	10.53	10.95	11.39	11.85	12.34	12.85	13.39	13.96	14.56	14.96	15.66	16.40	17.17	17.98	18.95	19.83	20.77	21.75	22.77

Levelised	
Variable Cost (Rs./Unit)	5.90
LevBsed Tariff (Fixed) (Rs./Unit)	2.73
Levelised Tariff(Rs./Unit)	8.63

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs. Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs. Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs. Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs. Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs./Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	6.79
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.2 A						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420.00	
			Total Equity Amount	Rs Lakh	180.00	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3666.92
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Annexure 2.2B							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	2		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420.00		
			Total Equity Amout	Rs Lakh	180.00		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
	MAT Rate			%	17.47%		
	Depreciation Rate(Power Plant)			%	4.67%		
	Depreciation Rate 16th year onwards			%	2.00%		
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
			Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4174.07	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU			6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Biomass Cost	Rs. Lakh			396.59	416.42	437.24	459.10	482.05	506.16	531.46	558.04	585.94	615.24	646.00	678.30	712.21	747.82	785.21	824.48	865.70	908.98	954.43	#####	1,052.26	1,104.88	1,160.12	1,218.13	1,279.03
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
O&M Expenses	Rs Lakh			50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh			37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			22.77	23.79	24.86	25.98	27.16	28.41	29.71	31.08	32.52	34.03	35.61	37.28	39.03	40.87	42.80	44.63	46.79	49.06	51.44	53.94	56.68	59.43	62.32	65.35	68.53
Return on Equity	Rs Lakh			30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh			168.38	168.76	169.28	169.92	170.70	171.62	172.69	173.92	175.31	176.86	178.60	180.51	182.62	184.92	187.44	175.25	180.80	186.58	192.61	198.89	213.76	220.60	227.72	235.16	242.91

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	10.07	6.43	6.75	7.09	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	14.73	15.47	16.24	17.05	17.90	18.80	19.74	20.73
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.56	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.83	0.87	0.92	0.96	1.01	1.06	1.11
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	12.97	9.15	9.48	9.83	10.19	10.58	10.98	11.41	11.86	12.34	12.84	13.36	13.92	14.50	15.11	15.76	16.20	16.96	17.75	18.59	19.46	20.51	21.48	22.49	23.55	24.66

Levillised

Variable Cost (Rs/Unit)	6.43
Levillised Tariff (Fixed) (Rs/Unit)	2.90
Levillised Tariff(Rs/Unit)	9.33

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	600.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	5.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.2C							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420.00		
			Total Equity Amout	Rs Lakh	180.00		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
					Return on Equity (upto 20 years)	% p.a	16.96%
					Return on Equity (After 20 years)		21.52%
					Discount Rate (equiv. to WACC)	%	8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
			Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4268.88	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		

RE Tariff Proposal for FY 2022-23

8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00
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RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU			6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh			405.60	425.88	447.17	469.53	493.00	517.65	543.54	570.71	599.25	629.21	660.67	693.71	728.39	764.81	803.05	843.20	885.36	929.63	976.11	#####	1,076.17	1,129.97	1,186.47	1,245.80	1,308.09
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh			50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh			37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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			23.22	24.26	25.35	26.50	27.70	28.97	30.30	31.70	33.17	34.72	36.34	38.04	39.83	41.71	43.68	45.55	47.76	50.08	52.51	55.07	57.86	60.67	63.62	66.71	69.96
Return on Equity	Rs Lakh			30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh			168.82	169.23	169.77	170.43	171.24	172.19	173.29	174.54	175.96	177.55	179.32	181.27	183.42	185.76	188.32	191.17	194.76	198.60	193.68	200.02	214.94	221.83	229.02	236.52	244.34

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh			10.30	6.57	6.90	7.25	7.61	7.99	8.39	8.81	9.25	9.71	10.20	10.71	11.24	11.80	12.39	13.01	13.66	14.35	15.06	15.82	16.61	17.44	18.31	19.23	20.19	21.20
O&M expn	Rs/kWh			1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh			0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Int. on term loan	Rs/kWh			0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh			0.57	0.38	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	0.71	0.74	0.77	0.81	0.85	0.89	0.94	0.98	1.03	1.08	1.13
RoE	Rs/kWh			0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh			13.21	9.31	9.64	10.00	10.37	10.76	11.18	11.62	12.08	12.56	13.07	13.61	14.18	14.78	15.40	16.06	16.82	17.29	18.10	18.96	19.85	20.92	21.90	22.94	24.02	25.16

Levilled

Variable Cost (Rs/Unit)	6.57
Levilled Tariff (Fixed) (Rs/Unit)	2.91
Levilled Tariff(Rs/Unit)	9.48

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	600.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levilled (Rs./Unit)	7.28
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.2 D						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	2	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420.00	
			Total Equity Amount	Rs Lakh	180.00	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00
				Moratorium Period	years	0
				Repayment Period(incld Moratorium)	years	15
				Interest Rate	%	9.12%
			<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
				Return on Equity (upto 20 years)	% p.a	16.96%
				Return on Equity (After 20 years)		21.52%
				Discount Rate (equiv. to WACC)	%	8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors		Months	1.5
			<u>For Variable Charges</u>			
			Biomass Stock		Months	4
		Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
		<u>Biomass</u>	Base Price	Rs/T	4365.90	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor			5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
		O & M Expenses Escalation		%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->																									
Installed Capacity		MW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Net Generation		MU	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost		Unit	Year-->																									
Biomass Cost		Rs. Lakh	414.81	435.55	457.33	480.20	504.21	529.42	555.89	583.68	612.87	643.51	675.69	709.47	744.95	782.19	821.30	862.37	905.49	950.76	998.30	#####	1,100.62	1,155.65	1,213.44	1,274.11	1,337.81	
Fixed Cost		Unit	Year-->																									
O&M Expenses		Rs Lakh	50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65	
Depreciation		Rs Lakh	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	
Interest on term loan		Rs Lakh	37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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	23.67	24.73	25.85	27.02	28.26	29.55	30.91	32.34	33.84	35.42	37.08	38.82	40.64	42.56	44.58	46.50	48.75	51.12	53.61	56.21	59.06	61.93	64.95	68.11	71.43	
Return on Equity		Rs Lakh	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	
Total Fixed Cost		Rs Lakh	169.28	169.71	170.27	170.96	171.79	172.77	173.90	175.18	176.64	178.26	180.06	182.05	184.23	186.62	189.22	177.12	182.76	188.64	194.77	201.16	216.15	223.10	230.35	237.92	245.81	

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation		Unit	Year-->																									
Per unit Variable Cost		Rs/kWh	10.53	6.72	7.06	7.41	7.78	8.17	8.58	9.01	9.46	9.93	10.43	10.95	11.50	12.07	12.67	13.31	13.97	14.67	15.41	16.18	16.99	17.83	18.73	19.66	20.65	21.68
O&M expn		Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation		Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan		Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital		Rs/kWh	0.58	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.69	0.72	0.75	0.79	0.83	0.87	0.91	0.96	1.00	1.05	1.10	1.16
RoE		Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	
Total COG		Rs/kWh	13.46	9.46	9.81	10.17	10.55	10.95	11.38	11.83	12.30	12.79	13.32	13.87	14.45	15.06	15.70	16.37	16.84	17.63	18.46	19.33	20.25	21.34	22.34	23.40	24.50	25.66

Levelised

Variable Cost (Rs./Unit)	6.72
Levelised Tariff (Fixed) (Rs./Unit)	2.92
Levelised Tariff (Rs./Unit)	9.65

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.28
Electricity Generation (Levelised) (Rs./Unit)	5.91
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.2 E							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00		
		<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420.00		
			Total Equity Amount	Rs Lakh	180.00		
		<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00		
			Moratorium Period	years	0		
			Repayment Period(incld Moratorium)	years	15		
			Interest Rate	%	9.12%		
		<u>Equity Component</u>	Equity amount	Rs Lakh	180.00		
			Return on Equity (upto 20 years)	% p.a	16.96%		
			Return on Equity (After 20 years)		21.52%		
			Discount Rate (equiv. to WACC)	%	8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%		
			Depreciation Rate 16th year onwards	%	2.00%		
		5	Working Capital	<u>For Fixed Charges</u>			
				O&M Charges		Months	1
Maintenance Spare	(% of O&M exepenses)				15.00%		
Receivables for Debtors				Months	1.5		
	<u>For Variable Charges</u>						
	Biomass Stock		Months	4			
	Interest On Working Capital		%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
		<u>Biomass</u>	Base Price	Rs/T	3643.76		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		346.20	363.51	381.69	400.77	420.81	441.85	463.94	487.14	511.50	537.07	563.93	592.12	621.73	652.81	685.46	719.73	755.71	793.50	833.18	874.83	918.58	964.50	1,012.73	1,063.37	1,116.53
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		20.29	21.18	22.12	23.11	24.14	25.23	26.38	27.58	28.84	30.17	31.57	33.03	34.57	36.18	37.88	39.46	41.37	43.37	45.46	47.66	50.08	52.51	55.05	57.71	60.51
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		165.89	166.16	166.54	167.04	167.68	168.45	169.36	170.42	171.64	173.01	174.55	176.26	178.16	180.24	182.52	170.08	175.37	180.88	186.63	192.61	207.17	213.67	220.46	227.53	234.90

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.79	5.61	5.89	6.18	6.49	6.82	7.16	7.52	7.89	8.29	8.70	9.14	9.59	10.07	10.58	11.11	11.66	12.25	12.86	13.50	14.18	14.88	15.63	16.41	17.23	18.09
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	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	0.61	0.64	0.67	0.70	0.74	0.77	0.81	0.85	0.89	0.94	0.98
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.63	8.30	8.58	8.88	9.20	9.54	9.89	10.26	10.66	11.07	11.51	11.97	12.45	12.96	13.50	14.06	14.42	15.09	15.79	16.53	17.30	18.24	19.09	19.98	20.92	21.90

Levilled

Variable Cost (Rs/Unit)	5.61
Levilled Tariff (Fixed) (Rs/Unit)	2.84
Levilled Tariff(Rs/Unit)	8.45

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.28
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.2 F							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420.00		
			Total Equity Amount	Rs Lakh	180.00		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
					Return on Equity (upto 20 years)	% p.a	16.96%
					Return on Equity (After 20 years)		21.52%
			Discount Rate (equiv. to WACC)	%	8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%		
			Depreciation Rate 16th year onwards	%	2.00%		
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
		<u>Biomass</u>	Base Price	Rs/T	3607.38		
			GCV-Biomass	Kcal/kg	3100.00		
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.74	359.88	377.88	396.77	416.61	437.44	459.31	482.28	506.39	531.71	558.30	586.21	615.52	646.30	678.61	712.54	748.17	785.58	824.86	866.10	909.40	954.87	1,002.62	1,052.75	1,105.39
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		20.12	21.00	21.93	22.91	23.94	25.02	26.15	27.34	28.59	29.91	31.29	32.74	34.26	35.86	37.54	39.11	41.00	42.98	45.05	47.23	49.63	52.03	54.55	57.19	59.96
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		165.72	165.98	166.35	166.85	167.47	168.23	169.14	170.18	171.38	172.74	174.27	175.97	177.85	179.92	182.18	184.73	187.56	190.68	194.10	197.81	201.81	206.11	210.70	215.58	220.75

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.70	5.55	5.83	6.12	6.43	6.75	7.09	7.44	7.81	8.21	8.62	9.05	9.50	9.97	10.47	11.00	11.55	12.12	12.73	13.37	14.03	14.74	15.47	16.25	17.06	17.91
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.48	0.51	0.53	0.56	0.58	0.61	0.63	0.66	0.70	0.73	0.77	0.80	0.84	0.88	0.93	0.97
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.54	8.24	8.52	8.82	9.13	9.46	9.81	10.18	10.57	10.98	11.42	11.87	12.35	12.86	13.39	13.95	14.30	14.96	15.65	16.38	17.15	18.09	18.93	19.81	20.74	21.71

Levillised

Variable Cost (Rs/Unit)	5.55
Levillised Tariff (Fixed) (Rs/Unit)	2.83
Levillised Tariff (Rs/Unit)	8.39

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	600.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation																											
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.2 G						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420.00	
			Total Equity Amount	Rs Lakh	180.00	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3666.92
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.2 H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420.00	
			Total Equity Amount	Rs Lakh	180.00	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			Discount Rate (equiv. to WACC)	%	8.35%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
			6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period
During stabilization period	Kcal/kWh	4200.00				
<u>Biomass</u>	Base Price	Rs/T				3730.86
GCV-Biomass	Kcal/kg	3100.00				
Biomass Price Escalation Factor		5.00%				
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.2 I							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Others							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420.00		
			Total Equity amount	Rs Lakh	180.00		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420.00	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180.00
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
			<u>For Fixed Charges</u>				
		O&M Charges	Months	1			
		Maintenance Spare	(% of O&M expenses)		15.00%		
		Receivables for Debtors	Months	1.5			
		<u>For Variable Charges</u>					
		Biomass Stock	Months	4			
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	3921.59	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		372.60	391.23	410.79	431.33	452.90	475.54	499.32	524.28	550.50	578.02	606.92	637.27	669.13	702.59	737.72	774.61	813.34	854.00	896.70	941.54	988.62	1,038.05	1,089.95	1,144.45	1,201.67

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		21.59	22.55	23.56	24.61	25.73	26.90	28.12	29.41	30.77	32.19	33.69	35.26	36.91	38.64	40.46	42.17	44.21	46.35	48.60	50.95	53.54	56.13	58.86	61.71	64.71
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54
Total Fixed Cost	Rs Lakh		167.19	167.52	167.97	168.55	169.26	170.11	171.11	172.25	173.56	175.03	176.67	178.49	180.49	182.69	185.10	172.79	178.21	183.87	189.76	195.90	210.62	217.30	224.26	231.52	239.10

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.46	6.04	6.34	6.66	6.99	7.34	7.71	8.09	8.50	8.92	9.37	9.83	10.33	10.84	11.38	11.95	12.55	13.18	13.84	14.53	15.26	16.02	16.82	17.66	18.54	19.47
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.53	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.68	0.72	0.75	0.79	0.83	0.87	0.91	0.95	1.00	1.05
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	12.33	8.75	9.05	9.38	9.72	10.08	10.46	10.86	11.29	11.73	12.20	12.70	13.22	13.77	14.35	14.95	15.35	16.07	16.82	17.61	18.43	19.43	20.34	21.30	22.30	23.35

Variable Cost (Rs/Unit)	6.04
Levillised Tariff (Fixed) (Rs/Unit)	2.87
Levillised Tariff (Rs/Unit)	8.91

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./MU)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 A					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	10.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	427.70
			Total Equity Amount	Rs Lakh	183.30
		<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (After 20 years)		21.52%
			Discount Rate (equiv. to WACC)	%	8.35%
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
	MAT Rate			%	17.47%
<u>Depreciation</u>	Depreciation Rate(Power Plant)			%	4.67%
	Depreciation Rate 16th year onwards			%	2.00%
<u>For Fixed Charges</u>					
	O&M Charges		Months	1	
	Maintenance Spare	(% of O&M exepenses)		15.00%	
	Receivables for Debtors		Months	1.5	
	<u>For Variable Charges</u>				
	Biomass Stock		Months	4	
	Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>	Base Price	Rs/T	3666.92
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.40	365.82	384.11	403.32	423.48	444.66	466.89	490.24	514.75	540.48	567.51	595.88	625.68	656.96	689.81	724.30	760.52	798.54	838.47	880.39	924.41	970.63	1,019.16	1,070.12	1,123.63

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.42	21.32	22.26	23.25	24.30	25.39	26.54	27.75	29.02	30.36	31.76	33.23	34.78	36.40	38.11	39.70	41.62	43.63	45.74	47.95	50.38	52.82	55.38	58.06	60.88
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.78	168.00	168.34	168.80	169.40	170.13	171.00	172.02	173.19	174.53	176.03	177.70	179.56	181.60	183.85	187.10	176.40	181.92	187.68	193.68	208.40	214.92	221.72	228.80	236.19

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.65	5.52	5.80	6.09	6.39	6.71	7.05	7.40	7.77	8.16	8.56	8.99	9.44	9.91	10.41	10.93	11.48	12.05	12.65	13.28	13.95	14.65	15.38	16.15	16.96	17.80
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	0.96
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62
Total COG	Rs/kWh	11.45	8.18	8.46	8.75	9.06	9.39	9.74	10.11	10.49	10.90	11.33	11.78	12.26	12.76	13.29	13.84	14.19	14.84	15.53	16.26	17.02	17.95	18.78	19.66	20.58	21.55

Levillised

Variable Cost (Rs/Unit)	5.52
Levillised Tariff (Fixed) (Rs/Unit)	2.80
Levillised Tariff (Rs/Unit)	8.32

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-26.61	-29.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.42
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 B							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	3		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	427.70		
			Total Equity amount	Rs Lakh	183.30		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expences)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4174.07	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		396.59	416.42	437.24	459.10	482.05	506.16	531.46	558.04	585.94	615.24	646.00	678.30	712.21	747.82	785.21	824.48	865.70	908.98	954.43	####	1,052.26	1,104.88	1,160.12	1,218.13	1,279.03
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.80	23.81	24.88	26.01	27.19	28.43	29.73	31.10	32.53	34.04	35.63	37.30	39.05	40.88	42.81	44.84	46.80	49.07	51.45	53.95	56.69	59.44	62.33	65.36	68.54
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	39.45	39.45	39.45	39.45
Total Fixed Cost	Rs Lakh		170.15	170.49	170.96	171.55	172.29	173.16	174.18	175.36	176.70	178.21	179.90	181.76	183.82	186.08	188.55	176.04	181.59	187.37	193.40	199.68	214.70	221.54	228.67	236.10	243.85

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.84	6.28	6.60	6.93	7.27	7.64	8.02	8.42	8.84	9.28	9.75	10.24	10.75	11.28	11.85	12.44	13.06	13.72	14.40	15.12	15.88	16.67	17.51	18.38	19.30	20.27
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.54	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.82	0.85	0.90	0.94	0.99	1.04	1.09
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62	0.62
Total COG	Rs/kWh	12.70	8.98	9.30	9.64	9.99	10.37	10.76	11.18	11.62	12.08	12.57	13.09	13.63	14.20	14.80	15.43	15.85	16.59	17.37	18.19	19.04	20.07	21.02	22.00	23.04	24.13

Variable Cost (Rs/Unit)	6.28
Levelised Tariff (Fixed) (Rs/Unit)	2.86
Levelised Tariff (Rs/Unit)	9.14

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.80	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.85	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.42
Electricity Generation (Levelised) (Rs./MU)	6.04
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 C						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			Debt Component	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%
				Depreciation Rate 16th year onwards	%	2.00%
			5	Working Capital	For Fixed Charges	
		O&M Charges		Months	1	
		Maintenance Spare	(% of O&M exepenses)		15.00%	
		Receivables for Debtors		Months	1.5	
		For Variable Charges				
		Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			Biomass	Base Price	Rs/T	4268.88
				GCV-Biomass	Kcal/kg	3100.00
				Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Net Generation	MU			6.31	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	6.31	6.31	6.31	6.31	6.31	6.31			
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
Biomass Cost	Rs. Lakh			405.60	425.88	447.17	469.53	493.00	517.65	543.54	570.71	599.25	629.21	660.67	693.71	728.39	764.81	803.05	843.20	885.36	929.63	976.11	#####	1,076.17	1,129.97	1,186.47	1,245.80	1,308.09			
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
O&M Expenses	Rs Lakh			50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65			
Depreciation	Rs Lakh			28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51			
Interest on term loan	Rs Lakh			37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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			23.24	24.28	25.37	26.52	27.73	28.99	30.32	31.72	33.19	34.73	36.35	38.06	39.84	41.72	43.69	45.66	47.77	50.09	52.52	55.08	57.87	60.68	63.63	66.72	69.97			
Return on Equity	Rs Lakh			31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09			
Total Fixed Cost	Rs Lakh			170.60	170.96	171.45	172.07	172.83	173.73	174.78	175.99	177.36	178.90	180.62	182.52	184.62	186.92	189.43	192.16	195.13	198.35	201.81	205.51	209.45	213.64	218.08	222.78	227.74	232.97	238.47	244.25

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh			10.07	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	14.73	15.47	16.24	17.05	17.90	18.80	19.74	20.73
O&M expn	Rs/kWh			1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh			0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh			0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh			0.56	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83	0.87	0.92	0.96	1.01	1.06	1.11
RoE	Rs/kWh			0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh			12.94	9.13	9.46	9.80	10.17	10.55	10.95	11.38	11.83	12.30	12.80	13.33	13.88	14.47	15.08	15.72	16.16	16.92	17.71	18.55	19.42	20.47	21.43	22.44	23.50	24.61

Variable Cost (Rs/Unit)	6.43
Levelised Tariff (Fixed) (Rs/Unit)	2.87
Levelised Tariff (Rs/Unit)	9.30

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-32.19	-17.56	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15	

Tax Benefit Levelised (Rs./Unit)	7.42
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 D						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	4365.90
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		414.81	435.55	457.33	480.20	504.21	529.42	555.89	583.68	612.87	643.51	675.69	709.47	744.95	782.19	821.30	862.37	905.49	950.76	998.30	####	1,100.62	1,155.65	1,213.44	1,274.11	1,337.81

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		23.70	24.76	25.87	27.05	28.28	29.57	30.93	32.36	33.86	35.44	37.09	38.83	40.66	42.58	44.59	46.51	48.76	51.13	53.62	56.23	59.07	61.95	64.96	68.12	71.44
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	39.45	39.45	39.45	39.45
Total Fixed Cost	Rs Lakh		171.05	171.44	171.95	172.59	173.38	174.31	175.39	176.63	178.03	179.61	181.36	183.30	185.44	187.78	190.33	177.91	183.55	189.43	195.56	201.96	217.09	224.04	231.30	238.86	246.75

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.30	6.57	6.90	7.25	7.61	7.99	8.39	8.81	9.25	9.71	10.20	10.71	11.24	11.80	12.39	13.01	13.66	14.35	15.06	15.82	16.61	17.44	18.31	19.23	20.19	21.20
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.57	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.64	0.67	0.71	0.74	0.77	0.81	0.85	0.89	0.94	0.98	1.03	1.08	1.13
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62	0.62
Total COG	Rs/kWh	13.18	9.28	9.62	9.97	10.34	10.74	11.15	11.59	12.05	12.53	13.04	13.58	14.15	14.74	15.37	16.03	16.48	17.25	18.07	18.92	19.81	20.88	21.86	22.89	23.97	25.11

Variable Cost (Rs/Unit)	6.57
Levilled Tariff (Fixed) (Rs/Unit)	2.88
Levilled Tariff (Rs/Unit)	9.45

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levilled (Rs./Unit)	7.42
Electricity Generation (Levilled) (Rs./Unit)	6.04
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 E						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3643.76
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		346.20	363.51	381.69	400.77	420.81	441.85	463.94	487.14	511.50	537.07	563.93	592.12	621.73	652.81	685.46	719.73	755.71	793.50	833.18	874.83	918.58	964.50	1,012.73	1,063.37	1,116.53

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.31	21.20	22.14	23.13	24.17	25.25	26.40	27.60	28.86	30.19	31.58	33.05	34.58	36.20	37.89	39.47	41.38	43.38	45.47	47.67	50.10	52.52	55.06	57.73	60.53
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.67	167.88	168.22	168.68	169.27	169.99	170.85	171.87	173.03	174.36	175.85	177.51	179.36	181.40	183.63	186.07	188.76	191.67	194.80	198.15	201.72	205.51	209.53	213.78	

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs./kWh	5.49	5.49	5.76	6.05	6.35	6.67	7.00	7.35	7.72	8.10	8.51	8.93	9.38	9.85	10.34	10.86	11.40	11.97	12.57	13.20	13.86	14.55	15.28	16.05	16.85	17.69
O&M expn	Rs./kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs./kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs./kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs./kWh	0.48	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83	0.87	0.91	0.96
RoE	Rs./kWh	1.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62	
Total COG	Rs/kWh	11.39	8.14	8.42	8.71	9.02	9.35	9.69	10.06	10.44	10.85	11.27	11.72	12.19	12.69	13.22	13.77	14.11	14.76	15.45	16.17	16.93	17.85	18.68	19.55	20.47	21.43

Variable Cost (Rs./Unit)	5.49
Levilled Tariff (Fixed) (Rs./Unit)	2.80
Levilled Tariff (Rs./Unit)	8.28

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-26.61	-29.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs./Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.42
Electricity Generation (Levilled) (Rs./MU)	6.04
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 F					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	10.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	427.70
			Total Equity Amount	Rs Lakh	183.30
		<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%
	Return on Equity (After 20 years)		21.52%		
	Discount Rate (equiv. to WACC)	%	8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
	Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>			
			Base Price	Rs/T	3607.38
			GCV-Biomass	Kcal/kg	3100.00
	Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.74	359.88	377.88	396.77	416.61	437.44	459.31	482.28	506.39	531.71	558.30	586.21	615.52	646.30	678.61	712.54	748.17	785.58	824.86	866.10	909.40	954.87	1,002.62	1,052.75	1,105.39

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.14	21.03	21.96	22.93	23.96	25.04	26.17	27.36	28.61	29.93	31.31	32.75	34.28	35.88	37.56	39.12	41.01	42.99	45.06	47.24	49.64	52.04	54.56	57.20	59.98
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.50	167.70	168.03	168.48	169.06	169.77	170.63	171.63	172.78	174.09	175.57	177.22	179.06	181.08	183.29	185.68	188.25	191.00	193.93	197.05	200.36	203.87	207.58	211.49	215.60

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.51	5.43	5.70	5.99	6.29	6.60	6.93	7.28	7.64	8.02	8.42	8.85	9.29	9.75	10.24	10.75	11.29	11.85	12.45	13.07	13.72	14.41	15.13	15.89	16.68	17.51
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.40	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	0.82	0.86	0.91	0.95
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62	0.62
Total COG	Rs/kWh	11.30	8.08	8.36	8.65	8.96	9.28	9.62	9.98	10.36	10.76	11.18	11.63	12.10	12.59	13.11	13.66	14.24	14.84	15.47	16.13	16.82	17.54	18.30	19.09	19.91	20.76

Variable Cost (Rs/Unit)	5.43
Levillised Tariff (Fixed) (Rs/Unit)	2.79
Levillised Tariff (Rs/Unit)	8.22

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Opening	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.42
Electricity Generation (Levillised) (Rs./kWh)	6.04
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 G					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	3
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	10.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	427.70
			Total Equity Amount	Rs Lakh	183.30
		<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (After 20 years)		21.52%
			Discount Rate (equiv. to WACC)	%	8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
		Interest On Working Capital		%	10.62%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>	Base Price	Rs/T	3666.92
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.40	365.82	384.11	403.32	423.48	444.66	466.89	490.24	514.75	540.48	567.51	595.88	625.68	656.96	689.81	724.30	760.52	798.54	838.47	880.39	924.41	970.63	1,019.16	1,070.12	1,123.63

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.42	21.32	22.26	23.25	24.30	25.39	26.54	27.75	29.02	30.36	31.76	33.23	34.78	36.40	38.11	39.70	41.62	43.63	45.74	47.95	50.38	52.82	55.38	58.06	60.88
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.78	168.00	168.34	168.80	169.40	170.13	171.00	172.02	173.19	174.53	176.03	177.70	179.56	181.60	183.85	171.10	176.40	181.92	187.68	193.68	208.40	214.92	221.72	228.80	236.19

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.65	5.52	5.80	6.09	6.39	6.71	7.05	7.40	7.77	8.16	8.56	8.99	9.44	9.91	10.41	10.93	11.48	12.05	12.65	13.28	13.95	14.65	15.38	16.15	16.96	17.80
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	0.96
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.45	8.18	8.46	8.75	9.06	9.39	9.74	10.11	10.49	10.90	11.33	11.78	12.26	12.76	13.29	13.84	14.19	14.84	15.53	16.26	17.02	17.95	18.78	19.66	20.58	21.55

Variable Cost (Rs/Unit)	5.52
Levelised Tariff (Fixed) (Rs/Unit)	2.80
Levelised Tariff (Rs/Unit)	8.32

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation		100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	70.0%	35.0%	21.0%	12.8%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.42
Electricity Generation (Levelised) (Rs./kWh)	6.04
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.3 H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			<u>For Fixed Charges</u>			
			O&M Charges	Months	1	
Maintenance Spare	(% of O&M exepenses)		15.00%			
Receivables for Debtors		Months	1.5			
<u>For Variable Charges</u>						
Biomass Stock		Months	4			
Interest On Working Capital		%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3730.86
			GCV-Biomass	Kcal/kg	3100.00	
			-			
			Biomass Price Escalation Factor			5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.3 I						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611.00	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			Debt Component	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			For Fixed Charges			
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			For Variable Charges			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
			6	Fuel Related Assumptions	Heat Rate	After stabilization period
During stabilization period	Kcal/kWh	4200.00				
Biomass						
Base Price	Rs/T	3921.59				
GCV-Biomass	Kcal/kg	3100.00				
7	Operation & Maintenance	O&M Expenses	Biomass Price Escalation Factor		5.00%	
			O & M Expenses	Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		372.60	391.23	410.79	431.33	452.90	475.54	499.32	524.28	550.50	578.02	606.92	637.27	669.13	702.59	737.72	774.61	813.34	854.00	896.70	941.54	988.62	1,038.05	1,089.95	1,144.45	1,201.67

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		21.61	22.57	23.58	24.64	25.75	26.92	28.14	29.43	30.79	32.21	33.70	35.27	36.92	38.65	40.47	42.18	44.22	46.36	48.61	50.96	53.55	56.15	58.87	61.73	64.72
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		168.97	169.25	169.65	170.18	170.85	171.65	172.60	173.70	174.96	176.38	177.97	179.74	181.70	183.85	186.21	173.58	179.00	184.66	190.55	196.69	211.56	218.24	225.21	232.47	240.04

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	9.25	5.90	6.20	6.51	6.83	7.18	7.53	7.91	8.31	8.72	9.16	9.62	10.10	10.60	11.13	11.69	12.27	12.89	13.53	14.21	14.92	15.66	16.45	17.27	18.13	19.04
O&M expan	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.52	0.34	0.36	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.73	0.77	0.81	0.85	0.89	0.93	0.98	1.03
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	12.08	8.58	8.88	9.20	9.53	9.88	10.25	10.65	11.06	11.49	11.95	12.44	12.94	13.48	14.04	14.64	15.02	15.72	16.46	17.23	18.03	19.02	19.90	20.84	21.82	22.84

Variable Cost (Rs/Unit)	5.90
Levillised Tariff (Fixed) (Rs/Unit)	2.83
Levillised Tariff (Rs/Unit)	8.73

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs /Unit)	7.42
Electricity Generation (Levillised) (Rs /Unit)	6.04
Levillised benefit (Rs/Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.4 A							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
2	Project Cost	Capital Cost/MW	Useful Life	Years	25		
			Power Plant Cost	Rs Lakh/MW	652.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	456.40		
			Total Equity Amount	Rs Lakh	195.60		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
	MAT Rate			%	17.47%		
<u>Depreciation</u>	Depreciation Rate(Power Plant)			%	4.67%		
	Depreciation Rate 16th year onwards			%	2.00%		
5	Working Capital	<u>For Fixed Charges</u>					
		O&M Charges		Months	1		
		Maintenance Spare	(% of O&M exepenses)			15.00%	
		Receivables for Debtors		Months	1.5		
		<u>For Variable Charges</u>					
		Biomass Stock		Months	4		
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
		<u>Biomass</u>	Base Price	Rs/T	3666.92		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.40	365.82	384.11	403.32	423.48	444.66	466.89	490.24	514.75	540.48	567.51	595.88	625.68	656.96	689.81	724.30	760.52	798.54	838.47	880.39	924.41	970.63	1,019.16	1,070.12	1,123.63

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.51	21.40	22.35	23.34	24.38	25.47	26.62	27.82	29.09	30.42	31.82	33.29	34.84	36.46	38.16	39.94	41.85	43.86	45.97	47.99	50.43	52.87	55.42	58.11	60.92
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		174.39	174.44	174.60	174.89	175.31	175.86	176.56	177.40	178.39	179.55	180.87	182.37	184.05	185.92	187.99	174.04	179.34	184.87	190.62	196.62	211.91	218.43	225.23	232.32	239.70

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.85	5.65	5.93	6.22	6.54	6.86	7.21	7.57	7.94	8.34	8.76	9.20	9.66	10.14	10.65	11.18	11.74	12.32	12.94	13.59	14.27	14.98	15.73	16.51	17.34	18.21
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.50	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.64	0.67	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	11.79	8.47	8.75	9.05	9.37	9.70	10.05	10.43	10.82	11.23	11.67	12.13	12.61	13.12	13.66	14.22	14.56	15.23	15.94	16.68	17.45	18.41	19.27	20.16	21.10	22.09

Variable Cost (Rs/Unit)	5.65
Levelised Tariff (Fixed) (Rs/Unit)	2.95
Levelised Tariff (Rs/Unit)	8.59

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levelised (Rs./Unit)	7.02
Electricity Generation (Levelised) (Rs./kWh)	5.91
Levelised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 B							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	456.40		
			Total Equity Amount	Rs Lakh	195.60		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%		
				Depreciation Rate 16th year onwards	%	4.67%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)		15.00%	
			Receivables for Debtors	Months	1.5		
			<u>For Variable Charges</u>				
			Biomass Stock	Months	4		
			Interest On Working Capital	%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00		
			During stabilization period	Kcal/kWh	4200.00		
			<u>Biomass</u>	Base Price	Rs/T	4174.07	
				GCV-Biomass	Kcal/kg	3100.00	
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		396.59	416.42	437.24	459.10	482.05	506.16	531.46	558.04	585.94	615.24	646.00	678.30	712.21	747.82	785.21	824.48	865.70	908.98	954.43	####	1,052.26	1,104.88	1,160.12	1,218.13	1,279.03

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.88	23.90	24.97	26.09	27.26	28.50	29.80	31.17	32.60	34.11	35.69	37.36	39.11	40.94	42.87	44.88	46.84	49.11	51.49	53.99	56.74	59.49	62.38	65.41	68.59
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		176.77	176.93	177.22	177.64	178.20	178.89	179.74	180.74	181.91	183.24	184.75	186.44	188.32	190.40	192.69	195.19	197.83	200.61	203.54	206.63	209.87	213.26	216.81	220.51	224.37

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.07	6.43	6.75	7.09	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	14.73	15.47	16.24	17.05	17.90	18.80	19.74	20.73
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.56	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.63	0.66	0.69	0.72	0.76	0.80	0.83	0.87	0.92	0.96	1.01	1.06	1.11
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	0.54
Total COG	Rs/kWh	13.08	9.29	9.61	9.96	10.32	10.70	11.10	11.52	11.97	12.44	12.94	13.46	14.01	14.59	15.20	15.85	16.26	17.02	17.81	18.65	19.52	20.59	21.55	22.56	23.62	24.73

Variable Cost (Rs/Unit)	6.43
Levelised Tariff (Fixed) (Rs/Unit)	3.01
Levelised Tariff(Rs/Unit)	9.43

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.92
Electricity Generation (Levelised) (Rs./MU)	5.91
Levelised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 C					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	12.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	456.40
			Total Equity Amount	Rs Lakh	195.60
		<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (After 20 years)		21.52%
			Discount Rate (equiv. to WACC)	%	8.35%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
		Interest On Working Capital		%	10.62%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>	Base Price	Rs/T	4268.88
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		405.60	425.88	447.17	469.53	493.00	517.65	543.54	570.71	599.25	629.21	660.67	693.71	728.39	764.81	803.05	843.20	885.36	929.63	976.11	####	1,076.17	1,129.97	1,186.47	1,245.80	1,308.09

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		23.33	24.37	25.46	26.60	27.80	29.07	30.40	31.79	33.26	34.80	36.42	38.12	39.90	41.78	43.75	45.80	47.81	50.13	52.56	55.12	57.91	60.73	63.68	66.77	70.02
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		177.21	177.40	177.71	178.15	178.74	179.46	180.34	181.37	182.56	183.93	185.47	187.20	189.12	191.24	193.57	197.91	185.50	191.33	197.41	203.75	219.40	226.29	233.48	240.98	248.80

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh		10.30	6.57	6.90	7.25	7.61	7.99	8.39	8.81	9.25	9.71	10.20	10.71	11.24	11.80	12.39	13.01	13.66	14.35	15.06	15.82	16.61	17.44	18.31	19.23	20.19	21.20
O&M expn	Rs/kWh		1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh		0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
Int. on term loan	Rs/kWh		0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh		0.57	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.65	0.68	0.71	0.74	0.77	0.81	0.85	0.89	0.94	0.98	1.03	1.08	
RoE	Rs/kWh		0.55	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	0.68	0.68	0.68	0.68	
Total COG	Rs/kWh		13.32	9.44	9.78	10.13	10.50	10.88	11.30	11.73	12.19	12.67	13.18	13.71	14.27	14.87	15.49	16.15	16.58	17.35	18.16	19.02	19.91	20.99	21.98	23.01	24.09	25.23

Variable Cost (Rs/Unit)	6.57
Levilled Tariff (Fixed) (Rs/Unit)	3.02
Levilled Tariff (Rs/Unit)	9.59

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 D						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			Debt Component	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			For Fixed Charges			
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			For Variable Charges			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			Biomass	Base Price	Rs/T	4365.90
			-	GCV-Biomass	Kcal/kg	3100.00
				Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		414.81	435.55	457.33	480.20	504.21	529.42	555.89	583.68	612.87	643.51	675.69	709.47	744.95	782.19	821.30	862.37	905.49	950.76	998.30	#####	1,100.62	1,155.65	1,213.44	1,274.11	1,337.81
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		23.78	24.84	25.96	27.13	28.36	29.65	31.01	32.43	33.93	35.51	37.16	38.90	40.72	42.64	44.65	46.55	48.80	51.17	53.66	56.26	59.12	61.99	65.01	68.17	71.49
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		177.67	177.88	178.21	178.68	179.29	180.04	180.95	182.01	183.23	184.63	186.21	187.97	189.93	192.10	194.47	180.85	186.49	192.37	198.51	204.90	220.60	227.56	234.81	242.38	250.27

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	10.53	6.72	7.06	7.41	7.78	8.17	8.58	9.01	9.46	9.93	10.43	10.95	11.50	12.07	12.67	13.31	13.97	14.67	15.41	16.18	16.99	17.83	18.73	19.66	20.65	21.68
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.58	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.75	0.79	0.83	0.87	0.91	0.96	1.00	1.05	1.10	1.16
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	13.56	9.60	9.94	10.30	10.68	11.08	11.50	11.94	12.41	12.90	13.42	13.97	14.54	15.15	15.79	16.46	16.90	17.69	18.52	19.39	20.31	21.41	22.41	23.47	24.57	25.73

Variable Cost (Rs/Unit)	6.72
Levelised Tariff (Fixed) (Rs/Unit)	3.03
Levelised Tariff (Rs/Unit)	9.75

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.92
Electricity Generation (Levelised) (Rs./Unit)	5.91
Levelised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 E						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
				Moratorium Period	years	0
				Repayment Period(incld Moratorium)	years	15
				Interest Rate	%	9.12%
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
				Return on Equity (upto 20 years)	% p.a	16.96%
				Return on Equity (After 20 years)		21.52%
		Discount Rate (equiv. to WACC)	%	8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors		Months	1.5
			<u>For Variable Charges</u>			
			Biomass Stock		Months	4
			Interest On Working Capital		%	10.62%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
		<u>Biomass</u>	Base Price	Rs/T	3643.76	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor			5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
		O & M Expenses Escalation		%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		346.20	363.51	381.69	400.77	420.81	441.85	463.94	487.14	511.50	537.07	563.93	592.12	621.73	652.81	685.46	719.73	755.71	793.50	833.18	874.83	918.58	964.50	1,012.73	1,063.37	1,116.53
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.40	21.29	22.23	23.21	24.24	25.33	26.47	27.67	28.93	30.26	31.65	33.11	34.64	36.26	37.95	39.51	41.42	43.42	45.51	47.71	50.14	52.57	55.11	57.77	60.57
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		174.28	174.32	174.48	174.76	175.18	175.72	176.41	177.25	178.23	179.38	180.70	182.19	183.86	185.72	187.77	173.82	179.11	184.62	190.36	196.35	211.62	218.13	224.91	231.98	239.35

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.79	5.61	5.89	6.18	6.49	6.82	7.16	7.52	7.89	8.29	8.70	9.14	9.59	10.07	10.58	11.11	11.66	12.25	12.86	13.50	14.18	14.88	15.63	16.41	17.23	18.09
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.61	0.64	0.67	0.70	0.74	0.77	0.81	0.85	0.89	0.94	0.98
RoE	Rs/kWh	0.55	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	0.54	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	11.73	8.43	8.72	9.01	9.33	9.66	10.01	10.38	10.77	11.18	11.61	12.07	12.55	13.05	13.59	14.15	14.48	15.15	15.85	16.59	17.36	18.31	19.16	20.05	20.99	21.97

Variable Cost (Rs/Unit)	5.61
Levelised Tariff (Fixed) (Rs/Unit)	2.94
Levelised Tariff(Rs/Unit)	8.55

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs /Unit)	7.92
Electricity Generation (Levelised) (Rs /Unit)	5.91
Levelised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 F					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	12.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	456.40
			Total Equity Amount	Rs Lakh	195.60
		<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
		<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%
	Return on Equity (After 20 years)		21.52%		
	Discount Rate (equiv. to WACC)	%	8.35%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	1.5
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
	Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
		<u>Biomass</u>	Base Price	Rs/T	3607.38
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
		O & M Expenses Escalation		%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.74	359.88	377.88	396.77	416.61	437.44	459.31	482.28	506.39	531.71	558.30	586.21	615.52	646.30	678.61	712.54	748.17	785.58	824.86	866.10	909.40	954.87	1,002.62	1,052.75	1,105.39

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.23	21.11	22.04	23.01	24.04	25.11	26.24	27.43	28.68	29.99	31.37	32.82	34.34	35.93	37.61	39.16	41.05	43.03	45.10	47.28	49.69	52.09	54.61	57.25	60.02
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		174.11	174.14	174.29	174.57	174.97	175.51	176.18	177.01	177.98	179.12	180.42	181.90	183.55	185.39	187.43	173.46	178.73	184.23	189.95	195.92	211.17	217.65	224.41	231.46	238.80

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.70	5.55	5.83	6.12	6.43	6.75	7.09	7.44	7.81	8.21	8.62	9.05	9.50	9.97	10.47	11.00	11.55	12.12	12.73	13.37	14.03	14.74	15.47	16.25	17.06	17.91
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.44	0.46	0.49	0.51	0.53	0.56	0.58	0.61	0.63	0.67	0.70	0.73	0.77	0.81	0.84	0.88	0.93	0.97
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	11.64	8.38	8.65	8.95	9.26	9.59	9.93	10.30	10.68	11.09	11.52	11.97	12.45	12.95	13.48	14.03	14.36	15.02	15.71	16.44	17.21	18.16	19.00	19.88	20.81	21.78

Variable Cost (Rs/Unit)	5.55
Levillised Tariff (Fixed) (Rs/Unit)	2.94
Levillised Tariff (Rs/Unit)	8.49

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.92
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 G					
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	4
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	12.00%
			PLF	%	80.00%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	456.40
			Total Equity Amount	Rs Lakh	195.60
			Debt Component		
			Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15
			Interest Rate	%	9.12%
			Equity Component		
			Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%
Return on Equity (After 20 years)		21.52%			
Discount Rate (equiv. to WACC)	%	8.35%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
			Depreciation		
			Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges			
			O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
			For Variable Charges		
			Biomass Stock	Months	4
Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4200.00
			During stabilization period	Kcal/kWh	4200.00
			Biomass		
			Base Price	Rs/T	3666.92
			GCV-Biomass	Kcal/kg	3100.00
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05
			O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.40	365.82	384.11	403.32	423.48	444.66	466.89	490.24	514.75	540.48	567.51	595.88	625.68	656.96	689.81	724.30	760.52	798.54	838.47	880.39	924.41	970.63	1,019.16	1,070.12	1,123.63

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.51	21.40	22.35	23.34	24.38	25.47	26.62	27.82	29.09	30.42	31.82	33.29	34.84	36.46	38.16	39.74	41.65	43.66	45.77	47.99	50.43	52.87	55.42	58.11	60.92
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		174.39	174.44	174.60	174.89	175.31	175.86	176.56	177.40	178.39	179.55	180.87	182.37	184.05	185.92	187.99	174.04	179.34	184.87	190.62	196.62	211.91	218.43	225.23	232.32	239.70

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.85	5.65	5.93	6.22	6.54	6.86	7.21	7.57	7.94	8.34	8.76	9.20	9.66	10.14	10.65	11.18	11.74	12.32	12.94	13.59	14.27	14.98	15.73	16.51	17.34	18.21
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.50	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.64	0.67	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	0.54
Total COG	Rs/kWh	11.79	8.47	8.75	9.05	9.37	9.70	10.05	10.43	10.82	11.23	11.67	12.13	12.61	13.12	13.66	14.22	14.56	15.23	15.94	16.68	17.45	18.41	19.27	20.16	21.10	22.09

Variable Cost (Rs/Unit)	5.65
Levilled Tariff (Fixed) (Rs/Unit)	2.95
Levilled Tariff (Rs/Unit)	8.59

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
Return on Equity (After 20 years)		21.52%				
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			<u>Biomass</u>	Base Price	Rs/T	3730.86
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		354.48	372.20	390.81	410.35	430.87	452.41	475.03	498.78	523.72	549.91	577.41	606.28	636.59	668.42	701.84	736.93	773.78	812.47	853.09	895.75	940.53	987.56	1,036.94	1,088.78	1,143.22
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.81	21.72	22.68	23.68	24.74	25.85	27.02	28.25	29.54	30.89	32.31	33.81	35.38	37.03	38.76	40.36	42.31	44.35	46.50	48.75	51.23	53.70	56.30	59.03	61.89
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		174.69	174.75	174.93	175.24	175.67	176.24	176.96	177.82	178.84	180.02	181.36	182.88	184.59	186.49	188.58	174.67	180.00	185.55	191.34	197.38	212.71	219.27	226.11	233.24	240.67

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	9.00	5.74	6.03	6.33	6.65	6.98	7.33	7.70	8.08	8.49	8.91	9.36	9.82	10.32	10.83	11.37	11.94	12.54	13.17	13.82	14.51	15.24	16.00	16.80	17.64	18.52
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh	0.51	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.65	0.69	0.72	0.75	0.79	0.83	0.87	0.91	0.96	1.00
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	
Total COG	Rs/kWh	11.95	8.57	8.86	9.17	9.49	9.83	10.19	10.56	10.96	11.38	11.83	12.30	12.79	13.31	13.85	14.43	14.77	15.46	16.17	16.92	17.71	18.69	19.56	20.47	21.42	22.42

Variable Cost (Rs/Unit)	5.74
Levillised Tariff (Fixed) (Rs/Unit)	2.95
Levillised Tariff (Rs/Unit)	8.70

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.92
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.4 I						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652.00	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4200.00	
			During stabilization period	Kcal/kWh	4200.00	
			Base Price	Rs/T	3921.59	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		372.60	391.23	410.79	431.33	452.90	475.54	499.32	524.28	550.50	578.02	606.92	637.27	669.13	702.59	737.72	774.61	813.34	854.00	896.70	941.54	988.62	1,038.05	1,089.95	1,144.45	1,201.67

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		21.70	22.66	23.66	24.72	25.83	26.99	28.22	29.50	30.86	32.28	33.77	35.34	36.98	38.71	40.53	42.22	44.26	46.40	48.65	51.00	53.60	56.19	58.92	61.77	64.77
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		175.59	175.69	175.92	176.27	176.76	177.38	178.16	179.08	180.16	181.40	182.82	184.41	186.19	188.17	190.35	176.53	181.95	187.60	193.50	199.64	215.08	221.76	228.72	235.98	243.55

Levelling tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.46	6.04	6.34	6.66	6.99	7.34	7.71	8.09	8.50	8.92	9.37	9.83	10.33	10.84	11.38	11.95	12.55	13.18	13.84	14.53	15.26	16.02	16.82	17.66	18.54	19.47
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.53	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.68	0.72	0.75	0.79	0.83	0.87	0.91	0.95	1.00	1.05
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	12.44	8.88	9.19	9.51	9.85	10.20	10.58	10.98	11.40	11.84	12.31	12.80	13.31	13.86	14.43	15.04	15.41	16.13	16.88	17.67	18.49	19.50	20.41	21.37	22.37	23.42

Variable Cost (Rs/Unit)	6.04
Levilled Tariff (Fixed) (Rs/Unit)	2.98
Levilled Tariff (Rs/Unit)	9.02

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.5 A						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3666.92	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766.00	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.00	20.89	21.82	22.80	23.82	24.90	26.04	27.23	28.48	29.80	31.18	32.63	34.15	35.75	37.43	39.01	40.90	42.87	44.95	47.12	49.51	51.91	54.42	57.06	59.83
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	36.09	36.09	36.09	36.09
Total Fixed Cost	Rs Lakh		159.08	159.51	160.06	160.73	161.53	162.47	163.54	164.76	166.14	167.67	169.38	171.25	173.30	175.55	177.98	180.63	183.20	185.80	188.43	191.10	193.81	196.56	199.35	202.18	205.05

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.49	5.42	5.69	5.98	6.28	6.59	6.92	7.27	7.63	8.01	8.41	8.83	9.27	9.74	10.22	10.73	11.27	11.83	12.43	13.05	13.70	14.38	15.10	15.86	16.65	17.48
O&M expn	Rs/kWh	1.17	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.78	0.82	0.86	0.90	0.95
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	11.18	7.94	8.22	8.51	8.82	9.15	9.49	9.86	10.24	10.64	11.07	11.51	11.99	12.48	13.00	13.55	13.91	14.56	15.24	15.95	16.70	17.60	18.43	19.29	20.19	21.14

Variable Cost (Rs/Unit)	5.42
Levilled Tariff (Fixed) (Rs/Unit)	2.69
Levilled Tariff (Rs/Unit)	8.11

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levilled (Rs./Unit)	6.79
Electricity Generation (Levilled) (Rs./Unit)	6.04
Levilled benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 B						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4174.07	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		389.50	408.98	429.43	450.90	473.45	497.12	521.97	548.07	575.48	604.25	634.46	666.19	699.49	734.47	771.19	809.75	850.24	892.75	937.39	984.26	1,033.47	1,085.15	1,139.40	1,196.37	1,256.19
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.34	23.34	24.39	25.50	26.66	27.88	29.17	30.51	31.93	33.42	34.98	36.62	38.34	40.15	42.05	43.86	45.99	48.22	50.56	53.02	55.70	58.41	61.25	64.23	67.35
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		161.41	161.96	162.63	163.43	164.37	165.44	166.67	168.05	169.59	171.30	173.18	175.24	177.49	179.95	182.61	171.58	177.09	182.83	188.82	195.07	209.32	216.11	223.19	230.57	238.27

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.67	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	14.14	14.85	15.59	16.37	17.19	18.05	18.96	19.90
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.53	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.64	0.67	0.69	0.73	0.76	0.80	0.84	0.88	0.93	0.97	1.02	1.07
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh	12.42	8.73	9.05	9.38	9.73	10.11	10.50	10.91	11.35	11.80	12.29	12.80	13.33	13.90	14.49	15.11	15.55	16.28	17.04	17.84	18.69	19.69	20.62	21.59	22.61	23.68

Variable Cost (Rs/Unit)	6.17
Levillised Tariff (Fixed) (Rs/Unit)	2.75
Levillised Tariff (Rs/Unit)	8.92

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Depm.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs./kWh)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 C						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			Discount Rate (equiv. to WACC)	%	8.35%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4268.88	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		398.35	418.27	439.18	461.14	484.20	508.41	533.83	560.52	588.55	617.98	648.87	681.32	715.38	751.15	788.71	828.15	869.55	913.03	958.68	####	1,056.95	1,109.80	1,165.29	1,223.55	1,284.73

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.77	23.80	24.87	26.00	27.19	28.44	29.75	31.13	32.58	34.09	35.69	37.37	39.13	40.98	42.92	44.77	46.94	49.22	51.61	54.12	56.86	59.62	62.52	65.57	68.76
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		161.85	162.42	163.11	163.93	164.90	166.00	167.25	168.66	170.23	171.97	173.89	175.99	178.28	180.77	183.47	172.48	178.04	183.83	189.87	196.17	210.48	217.32	224.47	231.91	239.68

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	9.89	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	14.47	15.19	15.95	16.75	17.58	18.46	19.39	20.36
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.55	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99	1.04	1.09
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	12.65	8.88	9.20	9.54	9.90	10.28	10.69	11.11	11.55	12.02	12.52	13.04	13.58	14.16	14.77	15.40	15.85	16.60	17.38	18.20	19.06	20.08	21.03	22.02	23.06	24.15

Variable Cost (Rs/Unit)	6.31
Levelised Tariff (Fixed) (Rs/Unit)	2.76
Levelised Tariff (Rs/Unit)	9.07

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depr.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-1.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs /Unit)	6.79
Electricity Generation (Levelised) (Rs /Unit)	6.04
Levelised benefit (Rs /Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 D							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	391.30		
			Total Equity Amount	Rs Lakh	167.70		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors	Months	1.5		
			<u>For Variable Charges</u>				
			Biomass Stock	Months	4		
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	4365.90		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		407.41	427.78	449.17	471.62	495.20	519.96	545.96	573.26	601.92	632.02	663.62	696.80	731.64	768.22	806.64	846.97	889.32	933.78	980.47	####	1,080.97	1,135.02	1,191.77	1,251.36	1,313.93

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		23.22	24.27	25.37	26.52	27.73	29.01	30.35	31.76	33.23	34.79	36.42	38.13	39.93	41.82	43.80	45.70	47.92	50.25	52.69	55.25	58.05	60.87	63.83	66.94	70.20
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	36.09	36.09	36.09	36.09	36.09
Total Fixed Cost	Rs Lakh		162.29	162.88	163.60	164.45	165.44	166.57	167.85	169.29	170.89	172.66	174.62	176.75	179.08	181.61	184.35	173.41	179.01	184.85	190.95	197.30	211.66	218.57	225.77	233.28	241.12

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	10.11	6.45	6.78	7.12	7.47	7.85	8.24	8.65	9.08	9.54	10.01	10.51	11.04	11.59	12.17	12.78	13.42	14.09	14.79	15.53	16.31	17.13	17.98	18.88	19.83	20.82
O&M expn	Rs/kWh	1.17	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.56	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.83	0.88	0.92	0.96	1.01	1.06	1.11
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	12.88	9.03	9.36	9.71	10.08	10.47	10.88	11.31	11.77	12.24	12.75	13.28	13.84	14.43	15.05	15.70	16.17	16.93	17.72	18.56	19.44	20.48	21.45	22.46	23.52	24.64

Variable Cost (Rs/Unit)	6.45
Levilled Tariff (Fixed) (Rs/Unit)	2.77
Levilled Tariff (Rs/Unit)	9.22

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levilled (Rs./Unit)	6.79
Electricity Generation (Levilled) (Rs./Unit)	6.04
Levilled benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 E						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
<u>For Fixed Charges</u>						
5	Working Capital		O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
			6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period
During stabilization period	Kcal/kWh	4125				
Base Price	Rs/T	3643.76				
GCV-Biomass	Kcal/kg	3100.00				
Biomass Price Escalation Factor		5.00%				
7	Operation & Maintenance	O&M Expenses				
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		340.02	357.02	374.87	393.62	413.30	433.96	455.66	478.44	502.36	527.48	553.86	581.55	610.63	641.16	673.22	706.88	742.22	779.33	818.30	859.21	902.17	947.28	994.65	1,044.38	1,096.60

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		19.90	20.78	21.70	22.67	23.70	24.77	25.90	27.08	28.32	29.63	31.00	32.45	33.96	35.55	37.22	38.79	40.66	42.63	44.69	46.85	49.23	51.61	54.11	56.73	59.48
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		158.97	159.39	159.94	160.60	161.40	162.33	163.40	164.61	165.98	167.51	169.20	171.07	173.11	175.34	177.77	180.40	183.22	186.25	189.49	192.94	196.61	200.51	204.64	209.00	213.60

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh		8.44	5.39	5.66	5.94	6.24	6.55	6.88	7.22	7.58	7.96	8.36	8.78	9.21	9.67	10.16	10.67	11.20	11.76	12.35	12.97	13.61	14.29	15.01	15.76	16.55	17.37
O&M expn	Rs/kWh		1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh		0.37	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	0.41	0.41	0.41	0.41	0.41	
Int. on term loan	Rs/kWh		0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh		0.47	0.32	0.33	0.34	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.61	0.64	0.68	0.71	0.74	0.78	0.82	0.86	0.90	0.94
RoE	Rs/kWh		0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Total COG	Rs/kWh		11.13	7.91	8.18	8.47	8.78	9.11	9.45	9.81	10.19	10.59	11.01	11.46	11.92	12.42	12.94	13.48	13.84	14.48	15.16	15.86	16.61	17.51	18.33	19.18	20.08	21.02

Variable Cost (Rs/Unit)	5.39
Levillised Tariff (Fixed) (Rs/Unit)	2.69
Levillised Tariff(Rs/Unit)	8.07

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	162.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs./Unit)	6.79
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 F						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
			<u>For Fixed Charges</u>			
5	Working Capital		O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3607.38	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		336.62	353.46	371.13	389.68	409.17	429.63	451.11	473.66	497.35	522.21	548.33	575.74	604.53	634.76	666.49	699.82	734.81	771.55	810.13	850.63	893.16	937.82	984.71	1,033.95	1,085.65

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	11.18	11.18	11.18	11.18	11.18	11.18	11.18	11.18
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		19.73	20.60	21.52	22.48	23.49	24.56	25.67	26.85	28.08	29.37	30.73	32.16	33.66	35.24	36.89	38.44	40.30	42.25	44.29	46.43	48.78	51.14	53.62	56.22	58.94
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	36.09	36.09	36.09	36.09
Total Fixed Cost	Rs Lakh		158.80	159.22	159.75	160.41	161.20	162.12	163.17	164.38	165.74	167.25	168.93	170.78	172.81	175.03	177.44	180.16	183.19	186.55	190.24	194.28	198.69	203.48	208.68	214.31	220.39

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.36	5.33	5.60	5.88	6.17	6.48	6.81	7.15	7.50	7.88	8.27	8.69	9.12	9.58	10.06	10.56	11.09	11.64	12.22	12.84	13.48	14.15	14.86	15.60	16.38	17.20
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.47	0.31	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.44	0.47	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.74	0.77	0.81	0.85	0.89	0.93
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	11.04	7.85	8.12	8.41	8.72	9.04	9.38	9.73	10.11	10.51	10.92	11.36	11.83	12.32	12.83	13.37	13.92	14.36	15.03	15.73	16.46	17.36	18.17	19.02	19.91	20.84

Variable Cost (Rs/Unit)	5.33
Levillised Tariff (Fixed) (Rs/Unit)	2.68
Levillised Tariff (Rs/Unit)	8.02

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	167.70	195.65	78.26	46.86	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs/Unit)	6.79
Electricity Generation (Levillised) (Rs/Unit)	6.04
Levillised benefit (Rs/Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 G								
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana								
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters			
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1			
			Auxiliary Consumption	%	12.00%			
			PLF	%	80.00%			
			Useful Life	Years	25			
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559			
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%			
			Equity	%	30%			
			Total Debt Amount	Rs Lakh	391.30			
			Total Equity Amount	Rs Lakh	167.70			
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30		
			Moratorium Period	years	0			
			Repayment Period(incld Moratorium)	years	15			
			Interest Rate	%	9.12%			
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70		
			Return on Equity (upto 20 years)	% p.a	16.96%			
			Return on Equity (After 20 years)		21.52%			
			Discount Rate (equiv. to WACC)	%	8.35%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%			
			MAT Rate	%	17.47%			
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%		
			Depreciation Rate 16th year onwards	%	2.00%			
			5	Working Capital	<u>For Fixed Charges</u>			
						O&M Charges	Months	1
Maintenance Spare	(% of O&M expenses)					15.00%		
Receivables for Debtors	Months	1.5						
		<u>For Variable Charges</u>						
			Biomass Stock	Months	4			
			Interest On Working Capital	%	10.62%			
			6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125
						During stabilization period	Kcal/kWh	4125
						Base Price	Rs/T	3666.92
GCV-Biomass	Kcal/kg	3100.00						
			Biomass Price Escalation Factor		5.00%			
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05			
			O & M Expenses Escalation	%	3.84%			
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766			

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.00	20.89	21.82	22.80	23.82	24.90	26.04	27.23	28.48	29.80	31.18	32.63	34.15	35.75	37.43	39.01	40.90	42.87	44.95	47.12	49.51	51.91	54.42	57.06	59.83
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		159.08	159.51	160.06	160.73	161.53	162.47	163.54	164.76	166.14	167.67	169.38	171.25	173.30	175.55	177.98	180.63	183.48	186.53	189.78	193.23	196.88	200.73	204.78	209.03	213.48

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs./kWh		8.49	5.42	5.69	5.98	6.28	6.59	6.92	7.27	7.63	8.01	8.41	8.83	9.27	9.74	10.22	10.73	11.27	11.83	12.43	13.05	13.70	14.38	15.10	15.86	16.65	17.48
O&M expn	Rs./kWh		1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs./kWh		0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	
Int. on term loan	Rs./kWh		0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs./kWh		0.48	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.78	0.82	0.86	0.90	0.95
RoE	Rs./kWh		0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Total COG	Rs./kWh		11.18	7.94	8.22	8.51	8.82	9.15	9.49	9.86	10.24	10.64	11.07	11.51	11.99	12.48	13.00	13.55	13.91	14.56	15.24	15.95	16.70	17.60	18.43	19.29	20.19	21.14

Variable Cost (Rs./Unit)	5.42
Levelised Tariff (Fixed) (Rs./Unit)	2.69
Levelised Tariff (Rs./Unit)	8.11

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.85	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs./Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	6.79
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3730.86	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.15	365.55	383.83	403.02	423.17	444.33	466.55	489.88	514.37	540.09	567.09	595.45	625.22	656.48	689.31	723.77	759.96	797.96	837.86	879.75	923.74	969.92	1,018.42	1,069.34	1,122.81

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		20.30	21.20	22.14	23.14	24.18	25.28	26.43	27.64	28.92	30.25	31.66	33.13	34.68	36.31	38.01	39.62	41.54	43.55	45.66	47.87	50.29	52.73	55.28	57.96	60.78
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		159.37	159.82	160.38	161.07	161.89	162.84	163.94	165.18	166.57	168.13	169.85	171.75	173.83	176.10	178.57	182.34	186.31	190.48	194.86	199.45	204.25	209.26	214.48	219.91	225.56

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.64	5.52	5.79	6.08	6.39	6.70	7.04	7.39	7.76	8.15	8.56	8.99	9.43	9.91	10.40	10.92	11.47	12.04	12.64	13.28	13.94	14.64	15.37	16.14	16.94	17.79
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	0.96
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.57	0.57	0.57	0.57	0.57
Total COG	Rs/kWh	11.34	8.04	8.32	8.62	8.94	9.27	9.62	9.99	10.38	10.79	11.22	11.68	12.16	12.66	13.19	13.75	14.12	14.78	15.47	16.19	16.95	17.87	18.70	19.58	20.50	21.46

Variable Cost (Rs/Unit)	5.52
Levelised Tariff (Fixed) (Rs/Unit)	2.70
Levelised Tariff (Rs/Unit)	8.21

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	167.70	195.65	78.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	-48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levelised (Rs./Unit)	6.79
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.5 I						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	559	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	391.30	
			Total Equity Amount	Rs Lakh	167.70	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	391.30
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	167.70
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
	Discount Rate (equiv. to WACC)	%	8.35%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3921.59	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		365.95	384.24	403.45	423.63	444.81	467.05	490.40	514.92	540.67	567.70	596.09	625.89	657.19	690.04	724.55	760.77	798.81	838.75	880.69	924.73	970.96	1,019.51	1,070.49	1,124.01	1,180.21
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09	26.09
Interest on term loan	Rs Lakh		34.49	32.11	29.73	27.35	24.97	22.59	20.22	17.84	15.46	13.08	10.70	8.32	5.95	3.57	1.19	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		21.17	22.12	23.11	24.15	25.25	26.40	27.61	28.88	30.21	31.62	33.09	34.63	36.26	37.96	39.75	41.45	43.45	45.56	47.77	50.09	52.62	55.17	57.85	60.66	63.61
Return on Equity	Rs Lakh		28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45	28.45
Total Fixed Cost	Rs Lakh		160.25	160.74	161.35	162.08	162.95	163.96	165.11	166.41	167.87	169.49	171.28	173.25	175.41	177.76	180.30	183.16	186.25	189.57	193.13	196.94	200.99	205.39	210.14	215.24	220.70

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	9.08	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	12.66	13.29	13.95	14.65	15.38	16.15	16.96	17.81	18.70
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.37	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	0.41	0.41	0.41	0.41	0.41	0.41
Int. on term loan	Rs/kWh	0.27	0.55	0.51	0.47	0.43	0.40	0.36	0.32	0.28	0.24	0.21	0.17	0.13	0.09	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.51	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.63	0.66	0.69	0.72	0.76	0.79	0.83	0.87	0.92	0.96	1.01
RoE	Rs/kWh	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Total COG	Rs/kWh	11.80	8.34	8.63	8.95	9.28	9.63	10.00	10.39	10.80	11.23	11.68	12.16	12.66	13.19	13.75	14.34	14.93	15.54	16.14	16.90	17.70	18.65	19.53	20.44	21.41	22.42

Variable Cost (Rs/Unit)	5.80
Levelised Tariff (Fixed) (Rs/Unit)	2.72
Levelised Tariff (Rs/Unit)	8.52

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	559.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	14.76	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	29.52	16.10	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Deprn.	Rs Lakh	167.70	195.65	79.26	46.96	28.17	16.90	10.14	6.09	3.65	2.19	1.31	0.79	0.47	0.28	0.17	0.10	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	152.94	166.13	48.74	17.44	-1.34	-12.61	-19.37	-23.43	-25.86	-27.32	-28.20	-28.73	-29.04	-29.23	-29.34	-29.41	-29.45	-16.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	53.44	58.05	17.03	6.09	-0.47	-4.41	-6.77	-8.19	-9.04	-9.55	-9.85	-10.04	-10.15	-10.21	-10.25	-10.28	-10.29	-5.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.69	0.92	0.27	0.10	-0.01	-0.07	-0.11	-0.13	-0.14	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	6.79
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.11

RE Tariff Proposal for FY 2022-23

Annexure 2.6 A						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420	
			Total Equity Amount	Rs Lakh	180	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3666.92	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		20.09	20.97	21.90	22.88	23.90	24.98	26.11	27.30	28.55	29.86	31.24	32.69	34.21	35.81	37.49	39.05	40.93	42.91	44.99	47.16	49.56	51.95	54.47	57.11	59.87
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		165.69	165.95	166.32	166.81	167.44	168.20	169.10	170.14	171.34	172.70	174.22	175.92	177.80	179.86	182.13	184.67	187.44	190.43	193.65	197.11	200.84	204.84	209.11	213.65	218.46

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.69	5.54	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48	9.96	10.46	10.98	11.53	12.10	12.71	13.34	14.01	14.71	15.45	16.22	17.03	17.88
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.63	0.66	0.70	0.73	0.76	0.80	0.84	0.88	0.93	0.97
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	11.52	8.23	8.51	8.81	9.12	9.45	9.80	10.17	10.56	10.97	11.40	11.85	12.33	12.84	13.37	13.93	14.28	14.94	15.63	16.36	17.12	18.06	18.90	19.78	20.71	21.68

Variable Cost (Rs/Unit)	5.54
Levillised Tariff (Fixed) (Rs/Unit)	2.83
Levillised Tariff (Rs/Unit)	8.38

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.27	0.25	0.23	0.21	0.19	0.18	0.16	

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 B						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420	
			Total Equity Amount	Rs Lakh	180	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4174.07	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		389.50	408.98	429.43	450.90	473.45	497.12	521.97	548.07	575.48	604.25	634.46	666.19	699.49	734.47	771.19	809.75	850.24	892.75	937.39	984.26	1,033.47	1,085.15	1,139.40	1,196.37	1,256.19

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.42	23.42	24.48	25.58	26.74	27.96	29.24	30.59	32.00	33.48	35.04	36.68	38.40	40.21	42.11	43.90	46.03	48.26	50.60	53.06	55.75	58.46	61.29	64.27	67.40
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		168.03	168.40	168.89	169.52	170.28	171.18	172.23	173.43	174.79	176.32	178.03	179.91	181.99	184.27	186.75	174.52	180.03	185.78	191.77	198.01	212.83	219.62	226.70	234.09	241.78

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.89	6.31	6.63	6.96	7.31	7.67	8.06	8.46	8.88	9.33	9.79	10.28	10.79	11.33	11.90	12.50	13.12	13.78	14.47	15.19	15.95	16.75	17.58	18.46	19.39	20.36
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh	0.55	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.78	0.82	0.86	0.90	0.95	0.99	1.04	1.09
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	12.78	9.03	9.36	9.70	10.05	10.43	10.83	11.25	11.69	12.16	12.65	13.17	13.71	14.28	14.89	15.52	15.95	16.69	17.48	18.30	19.16	20.20	21.44	22.14	23.18	24.27

Variable Cost (Rs/Unit)	6.31
Levelised Tariff (Fixed) (Rs/Unit)	2.89
Levelised Tariff (Rs/Unit)	9.20

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.28
Electricity Generation (Levelised) (Rs./Unit)	5.91
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 C							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420		
			Total Equity Amount	Rs Lakh	180		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	4268.88		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		398.35	418.27	439.18	461.14	484.20	508.41	533.83	560.52	588.55	617.98	648.87	681.32	715.38	751.15	788.71	828.15	869.55	913.03	958.68	####	1,056.95	1,109.80	1,165.29	1,223.55	1,284.73

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.86	23.88	24.96	26.08	27.27	28.52	29.83	31.20	32.64	34.16	35.75	37.43	39.19	41.03	42.97	44.81	46.98	49.26	51.65	54.16	56.91	59.67	62.57	65.61	68.81
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		168.46	168.86	169.37	170.02	170.81	171.73	172.81	174.04	175.44	177.00	178.74	180.66	182.77	185.09	187.61	175.43	180.99	186.78	192.82	199.11	213.99	220.84	227.98	235.43	243.19

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh		10.11	6.45	6.78	7.12	7.47	7.85	8.24	8.65	9.08	9.54	10.01	10.51	11.04	11.59	12.17	12.78	13.42	14.09	14.79	15.53	16.31	17.13	17.98	18.88	19.83	20.82
O&M expn	Rs/kWh		1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh		0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Int. on term loan	Rs/kWh		0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh		0.56	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.63	0.66	0.70	0.73	0.76	0.80	0.84	0.88	0.92	0.97	1.01	1.06	1.11
RoE	Rs/kWh		0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	
Total COG	Rs/kWh		13.02	9.18	9.51	9.86	10.23	10.61	11.02	11.45	11.90	12.38	12.88	13.41	13.97	14.55	15.17	15.82	16.26	17.02	17.82	18.66	19.54	20.59	21.56	22.58	23.64	24.76

Variable Cost (Rs/Unit)	6.45
Levillised Tariff (Fixed) (Rs/Unit)	2.90
Levillised Tariff (Rs/Unit)	9.36

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 D							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420		
			Total Equity Amount	Rs Lakh	180		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	4365.90		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		407.41	427.78	449.17	471.62	495.20	519.96	545.96	573.26	601.92	632.02	663.62	696.80	731.64	768.22	806.64	846.97	889.32	933.78	980.47	####	1,080.97	1,135.02	1,191.77	1,251.36	1,313.93

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		23.31	24.35	25.45	26.60	27.81	29.09	30.42	31.83	33.30	34.85	36.48	38.19	39.99	41.87	43.86	45.74	47.96	50.28	52.73	55.29	58.09	60.92	63.88	66.99	70.25
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		168.91	169.32	169.87	170.54	171.35	172.30	173.41	174.67	176.10	177.69	179.46	181.42	183.58	185.93	188.50	176.36	181.96	187.80	193.89	200.24	215.18	222.08	229.29	236.80	244.63

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.34	6.60	6.93	7.28	7.64	8.02	8.43	8.85	9.29	9.75	10.24	10.75	11.29	11.86	12.45	13.07	13.72	14.41	15.13	15.89	16.68	17.52	18.39	19.31	20.28	21.29
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.57	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.81	0.85	0.90	0.94	0.99	1.04	1.09	1.14
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	13.26	9.34	9.68	10.03	10.41	10.80	11.22	11.66	12.12	12.61	13.12	13.66	14.23	14.83	15.46	16.13	16.58	17.36	18.17	19.03	19.93	21.00	21.99	23.03	24.11	25.26

Variable Cost (Rs/Unit)	6.60
Levilled Tariff (Fixed) (Rs/Unit)	2.91
Levilled Tariff (Rs/Unit)	9.52

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levilled (Rs./Unit)	7.28
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 E							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420		
			Total Equity Amount	Rs Lakh	180		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
	MAT Rate			%	17.47%		
	<u>Depreciation</u>			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
			Interest On Working Capital		%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3643.76		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		340.02	357.02	374.87	393.62	413.30	433.96	455.66	478.44	502.36	527.48	553.86	581.55	610.63	641.16	673.22	706.88	742.22	779.33	818.30	859.21	902.17	947.28	994.65	1,044.38	1,096.60

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		19.98	20.86	21.78	22.75	23.77	24.84	25.97	27.15	28.39	29.70	31.07	32.51	34.02	35.61	37.28	38.83	40.70	42.67	44.73	46.89	49.27	51.66	54.16	56.78	59.53
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		165.59	165.84	166.20	166.69	167.31	168.06	168.96	169.99	171.19	172.54	174.05	175.74	177.61	179.66	181.92	189.45	174.71	180.18	185.89	191.84	206.36	212.82	219.56	226.59	233.91

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.63	5.51	5.79	6.07	6.38	6.70	7.03	7.38	7.75	8.14	8.55	8.97	9.42	9.89	10.39	10.91	11.45	12.03	12.63	13.26	13.92	14.62	15.35	16.12	16.92	17.77
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	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	0.58	0.60	0.63	0.66	0.69	0.72	0.76	0.80	0.84	0.88	0.92	0.96
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	11.46	8.19	8.47	8.77	9.08	9.41	9.76	10.12	10.51	10.91	11.34	11.80	12.27	12.77	13.30	13.86	14.20	14.86	15.55	16.27	17.03	17.96	18.80	19.68	20.59	21.56

Variable Cost (Rs/Unit)	5.51
Levillised Tariff (Fixed) (Rs/Unit)	2.83
Levillised Tariff(Rs/Unit)	8.34

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 F							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420		
			Total Equity Amount	Rs Lakh	180		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
	MAT Rate			%	17.47%		
	<u>Depreciation</u>			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors	Months	1.5		
			<u>For Variable Charges</u>				
			Biomass Stock	Months	4		
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3607.38		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		336.62	353.46	371.13	389.68	409.17	429.63	451.11	473.66	497.35	522.21	548.33	575.74	604.53	634.76	666.49	699.82	734.81	771.55	810.13	850.63	893.16	937.82	984.71	1,033.95	1,085.65

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		19.82	20.69	21.60	22.56	23.57	24.63	25.75	26.92	28.15	29.44	30.80	32.22	33.72	35.29	36.94	38.68	40.34	42.28	44.33	46.47	48.83	51.19	53.67	56.26	58.99
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		165.42	165.66	166.02	166.50	167.11	167.85	168.73	169.76	170.94	172.28	173.78	175.45	177.31	179.35	181.58	189.10	174.34	179.80	185.49	191.42	205.91	212.36	219.07	226.08	233.37

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh	8.55	5.45	5.73	6.01	6.31	6.63	6.96	7.31	7.68	8.06	8.46	8.89	9.33	9.80	10.29	10.80	11.34	11.91	12.50	13.13	13.78	14.47	15.20	15.96	16.75	17.59
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.60	0.62	0.65	0.69	0.72	0.75	0.79	0.83	0.87	0.91	0.96
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	11.37	8.14	8.41	8.70	9.01	9.34	9.68	10.04	10.43	10.83	11.25	11.70	12.17	12.67	13.19	13.74	14.08	14.73	15.42	16.13	16.89	17.81	18.64	19.51	20.42	21.37

Variable Cost (Rs/Unit)	5.45
Levillised Tariff (Fixed) (Rs/Unit)	2.83
Levillised Tariff (Rs/Unit)	8.28

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.28
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 G							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	420		
			Total Equity Amount	Rs Lakh	180		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	180
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%		
			MAT Rate	%	17.47%		
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors		Months	1.5	
			<u>For Variable Charges</u>				
			Biomass Stock		Months	4	
		Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3666.92		
			GCV-Biomass	Kcal/kg	3100.00		
				Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65	
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	0.00	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		20.09	20.97	21.90	22.88	23.90	24.98	26.11	27.30	28.55	29.86	31.24	32.69	34.21	35.81	37.49	39.05	40.93	42.91	44.99	47.16	49.56	51.95	54.47	57.11	59.87	
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74	38.74	
Total Fixed Cost	Rs Lakh		165.69	165.95	166.32	166.81	167.44	168.20	169.10	170.14	171.34	172.70	174.22	175.92	177.80	179.86	182.13	184.67	187.44	190.43	193.74	197.37	201.33	205.64	210.32	215.37	220.80	

Levelled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.69	5.54	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48	9.96	10.46	10.98	11.53	12.10	12.71	13.34	14.01	14.71	15.45	16.22	17.03	17.88
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.63	0.66	0.70	0.73	0.76	0.80	0.84	0.88	0.93	0.97
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	11.52	8.23	8.51	8.81	9.12	9.45	9.80	10.17	10.56	10.97	11.40	11.85	12.33	12.84	13.37	13.93	14.28	14.94	15.63	16.36	17.12	18.06	18.90	19.78	20.71	21.68

Variable Cost (Rs/Unit)	5.54
Levelled Tariff (Fixed) (Rs/Unit)	2.83
Levelled Tariff (Rs/Unit)	8.38

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelled (Rs /Unit)	7.28
Electricity Generation (Levelled) (Rs /Unit)	5.91
Levelled benefit (Rs/Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 H						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	600	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	420	
			Total Equity Amount	Rs Lakh	180	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	420
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	180
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
Interest On Working Capital	%	10.62%				
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3730.86	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.15	365.55	383.83	403.02	423.17	444.33	466.55	489.88	514.37	540.09	567.09	595.45	625.22	656.48	689.31	723.77	759.96	797.96	837.86	879.75	923.74	969.92	1,018.42	1,069.34	1,122.81

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		20.38	21.28	22.23	23.22	24.26	25.36	26.51	27.72	28.99	30.32	31.72	33.19	34.74	36.36	38.07	39.66	41.58	43.59	45.69	47.91	50.34	52.77	55.33	58.01	60.82
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		165.99	166.26	166.64	167.15	167.80	168.57	169.49	170.56	171.78	173.16	174.70	176.42	178.33	180.42	182.71	185.28	188.10	191.18	194.54	198.20	202.18	206.49	211.15	216.18	221.61

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.84	5.64	5.92	6.22	6.53	6.86	7.20	7.56	7.94	8.33	8.75	9.19	9.65	10.13	10.64	11.17	11.73	12.31	12.93	13.58	14.26	14.97	15.72	16.50	17.33	18.19
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.50	0.33	0.34	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.64	0.67	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	11.68	8.33	8.62	8.92	9.24	9.58	9.93	10.31	10.70	11.12	11.56	12.02	12.51	13.02	13.56	14.13	14.49	15.16	15.86	16.60	17.38	18.33	19.18	20.08	21.02	22.01

Variable Cost (Rs/Unit)	5.64
Levelised Tariff (Fixed) (Rs/Unit)	2.84
Levelised Tariff (Rs/Unit)	8.48

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.15

Tax Benefit Levelised (Rs./Unit)	7.28
Electricity Generation (Levelised) (Rs./Unit)	5.91
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.6 I								
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States								
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters			
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1			
			Auxiliary Consumption	%	12.00%			
			PLF	%	80.00%			
2	Project Cost	Capital Cost/MW	Useful Life	Years	25			
			Power Plant Cost	Rs Lakh/MW	600			
3	Financial Assumptions	Debt: Equity	Debt	%	70%			
			Equity	%	30%			
			Total Debt Amount	Rs Lakh	420			
			Total Equity Amount	Rs Lakh	180			
			Debt Component	Loan Amount	Rs Lakh	420		
			Moratorium Period	years	0			
			Repayment Period(incld Moratorium)	years	15			
			Interest Rate	%	9.12%			
			Equity Component	Equity amount	Rs Lakh	180		
			Return on Equity (upto 20 years)	% p.a	16.96%			
			Return on Equity (After 20 years)		21.52%			
4	Financial Assumptions	Fiscal Assumptions	Discount Rate (equiv. to WACC)	%	8.35%			
			Income Tax	%	34.94%			
			MAT Rate	%	17.47%			
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%		
			Depreciation Rate 16th year onwards	%	2.00%			
			5	Working Capital	For Fixed Charges	O&M Charges	Months	1
						Maintenance Spare	(% of O&M expenses)	15.00%
Receivables for Debtors	Months	1.5						
For Variable Charges								
Biomass Stock	Months	4						
Interest On Working Capital	%	10.62%						
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4125			
			During stabilization period	Kcal/kWh	4125			
			Base Price	Rs/T	3921.59			
			GCV-Biomass	Kcal/kg	3100.00			
			Biomass Price Escalation Factor		5.00%			
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05			
			O & M Expenses Escalation	%	3.84%			
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766			

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		365.95	384.24	403.45	423.63	444.81	467.05	490.40	514.92	540.67	567.70	596.09	625.89	657.19	690.04	724.55	760.77	798.81	838.75	880.69	924.73	970.96	1,019.51	1,070.49	1,124.01	1,180.21

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
Interest on term loan	Rs Lakh		37.02	34.46	31.91	29.36	26.80	24.25	21.70	19.15	16.59	14.04	11.49	8.93	6.38	3.83	1.28	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		21.26	22.20	23.19	24.23	25.33	26.48	27.68	28.95	30.28	31.68	33.15	34.70	36.32	38.02	39.81	41.49	43.49	45.60	47.81	50.12	52.67	55.22	57.90	60.71	63.65
Return on Equity	Rs Lakh		30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	30.54	38.74	38.74	38.74	38.74
Total Fixed Cost	Rs Lakh		166.87	167.18	167.61	168.17	168.86	169.69	170.67	171.79	173.07	174.52	176.13	177.93	179.90	182.07	184.45	172.11	177.50	183.11	188.97	195.07	209.75	216.39	223.30	230.52	238.04

Levelled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.29	5.93	6.23	6.54	6.86	7.21	7.57	7.95	8.34	8.76	9.20	9.66	10.14	10.65	11.18	11.74	12.33	12.94	13.59	14.27	14.98	15.73	16.52	17.35	18.21	19.12
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.52	0.48	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh	0.52	0.34	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.65	0.67	0.70	0.74	0.77	0.81	0.85	0.89	0.94	0.98	1.03
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.63	0.63	0.63	0.63	0.63
Total COG	Rs/kWh	12.15	8.63	8.94	9.25	9.59	9.94	10.32	10.71	11.13	11.57	12.03	12.51	13.03	13.56	14.13	14.73	15.12	15.82	16.56	17.33	18.15	19.13	20.03	20.96	21.95	22.98

Variable Cost (Rs/Unit)	5.93
Levelled Tariff (Fixed) (Rs/Unit)	2.86
Levelled Tariff (Rs/Unit)	8.79

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	600.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.84	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	17.28	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	180.00	210.00	84.00	50.40	30.24	18.14	10.89	6.53	3.92	2.35	1.41	0.85	0.51	0.30	0.18	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	164.16	178.32	52.32	18.72	-1.44	-13.54	-20.79	-25.15	-27.76	-29.33	-30.27	-30.83	-31.17	-31.38	-31.50	-31.57	-31.61	-17.24	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	57.36	62.31	18.28	6.54	-0.50	-4.73	-7.27	-8.79	-9.70	-10.25	-10.58	-10.77	-10.89	-10.96	-11.01	-11.03	-11.05	-6.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	1.86	1.01	0.30	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelled (Rs./Unit)	7.28
Electricity Generation (Levelled) (Rs./kWh)	5.91
Levelled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 A							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611		
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	427.70		
			Total Equity Amount	Rs Lakh	183.30		
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70	
				Moratorium Period	years	0	
				Repayment Period(incld Moratorium)	years	15	
				Interest Rate	%	9.12%	
				<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
				Return on Equity (upto 20 years)	% p.a	16.96%	
				Return on Equity (After 20 years)		21.52%	
				Discount Rate (equiv. to WACC)	%	8.35%	
		4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%
					MAT Rate	%	17.47%
	<u>Depreciation</u>			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>					
			O&M Charges	Months	1		
			Maintenance Spare	(% of O&M expenses)		15.00%	
			Receivables for Debtors	Months	1.5		
			<u>For Variable Charges</u>				
			Biomass Stock	Months	4		
			Interest On Working Capital	%	10.62%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3666.92		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
			O & M Expenses Escalation	%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.11	21.00	21.92	22.90	23.92	25.00	26.13	27.32	28.57	29.88	31.26	32.71	34.23	35.82	37.50	39.06	40.95	42.92	45.00	47.17	49.57	51.97	54.48	57.12	59.89
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.47	167.67	168.00	168.45	169.02	169.74	170.59	171.59	172.74	174.05	175.53	177.18	179.01	181.02	183.24	185.66	188.24	190.98	193.89	196.97	200.22	203.65	207.26	211.05	215.03

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.49	5.42	5.69	5.98	6.28	6.59	6.92	7.27	7.63	8.01	8.41	8.83	9.27	9.74	10.22	10.73	11.27	11.83	12.43	13.05	13.70	14.38	15.10	15.86	16.65	17.48
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.79	0.82	0.86	0.90	0.95
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.29	8.07	8.35	8.64	8.94	9.27	9.61	9.97	10.35	10.75	11.17	11.61	12.08	12.57	13.09	13.64	13.97	14.62	15.30	16.01	16.76	17.67	18.50	19.36	20.26	21.21

Variable Cost (Rs/Unit)	5.42
Levilled Tariff (Fixed) (Rs/Unit)	2.79
Levilled Tariff (Rs/Unit)	8.21

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation																											
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levilled (Rs./Unit)	7.42
Electricity Generation (Levilled) (Rs./Unit)	6.04
Levilled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 B						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			Debt Component	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			For Variable Charges			
			Biomass Stock	Months	4	
Interest On Working Capital	%	10.62%				
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4174.07	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity		MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation		MJ		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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost		Rs. Lakh		389.50	408.98	429.43	450.90	473.45	497.12	521.97	548.07	575.48	604.25	634.46	666.19	699.49	734.47	771.19	809.75	850.24	892.75	937.39	984.26	1,033.47	1,085.15	1,139.40	1,196.37	1,256.19
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses		Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation		Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22
Interest on term loan		Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital		Rs Lakh		22.45	23.45	24.50	25.60	26.76	27.98	29.26	30.61	32.02	33.50	35.06	36.70	38.42	40.23	42.12	43.91	46.04	48.27	50.61	53.07	55.76	58.47	61.31	64.29	67.41
Return on Equity		Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	39.45	39.45	39.45	39.45
Total Fixed Cost		Rs Lakh		169.80	170.13	170.57	171.15	171.86	172.72	173.72	174.87	176.19	177.67	179.33	181.17	183.20	185.42	187.86	175.31	180.82	186.57	192.56	198.80	213.78	220.57	227.65	235.03	242.73

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost		Rs/kWh	9.67	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	14.14	14.85	15.59	16.37	17.19	18.05	18.96	19.90
O&M Expn		Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation		Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan		Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital		Rs/kWh	0.54	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.48	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.73	0.76	0.80	0.84	0.88	0.93	0.97	1.02	1.07
RoE		Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62
Total COG		Rs/kWh	12.52	8.86	9.18	9.51	9.86	10.22	10.61	11.02	11.45	11.91	12.39	12.89	13.43	13.99	14.57	15.20	15.61	16.34	17.10	17.90	18.74	19.76	20.69	21.66	22.68	23.75

Variable Cost (Rs/Unit)	6.17
Levelised Tariff (Fixed) (Rs/Unit)	2.85
Levelised Tariff (Rs/Unit)	9.02

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levelised (Rs./Unit)	7.42
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 C						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4268.88	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		398.35	418.27	439.18	461.14	484.20	508.41	533.83	560.52	588.55	617.98	648.87	681.32	715.38	751.15	788.71	828.15	869.55	913.03	958.68	####	1,056.95	1,109.80	1,165.29	1,223.55	1,284.73

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.88	23.91	24.98	26.11	27.29	28.54	29.84	31.22	32.66	34.18	35.77	37.45	39.20	41.05	42.99	44.82	46.99	49.27	51.66	54.17	56.92	59.68	62.58	65.63	68.82
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		170.24	170.58	171.05	171.65	172.39	173.27	174.30	175.49	176.83	178.35	180.04	181.91	183.98	186.25	188.72	191.37	194.19	197.17	200.31	203.61	207.07	210.69	214.47	218.41	222.51

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.89	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	14.47	15.19	15.95	16.75	17.58	18.46	19.39	20.36
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.55	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.82	0.86	0.90	0.95	0.99	1.04	1.09
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	12.75	9.01	9.33	9.67	10.03	10.40	10.80	11.22	11.66	12.13	12.62	13.13	13.68	14.25	14.85	15.49	16.16	16.87	17.62	18.41	19.24	20.11	21.02	21.97	22.96	23.99

Variable Cost (Rs/Unit)	6.31
Levillised Tariff (Fixed) (Rs/Unit)	2.86
Levillised Tariff (Rs/Unit)	9.17

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.42
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 D						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
2	Project Cost	Capital Cost/MW	Useful Life	Years	25	
			Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4365.90	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		407.41	427.78	449.17	471.62	495.20	519.96	545.96	573.26	601.92	632.02	663.62	696.80	731.64	768.22	806.64	846.97	889.32	933.78	980.47	####	1,080.97	1,135.02	1,191.77	1,251.36	1,313.93

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		23.33	24.37	25.47	26.62	27.83	29.11	30.44	31.85	33.32	34.87	36.50	38.21	40.00	41.89	43.87	45.75	47.97	50.30	52.74	55.30	58.10	60.93	63.89	67.00	70.26
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	39.45	39.45	39.45	39.45
Total Fixed Cost	Rs Lakh		170.69	171.05	171.55	172.17	172.93	173.84	174.90	176.11	177.49	179.04	180.77	182.68	184.78	187.09	189.61	177.15	182.75	188.59	194.68	201.03	216.12	223.03	230.23	237.74	245.57

Levelled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Per unit Variable Cost	Rs/kWh		10.11	6.45	6.78	7.12	7.47	7.85	8.24	8.65	9.08	9.54	10.01	10.51	11.04	11.59	12.17	12.78	13.42	14.09	14.79	15.53	16.31	17.13	17.98	18.88	19.83	20.82
O&M Expn	Rs/kWh		1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh		0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Int. on term loan	Rs/kWh		0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	
Int. on working capital	Rs/kWh		0.56	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.61	0.63	0.66	0.70	0.72	0.76	0.80	0.84	0.88	0.92	0.97	1.01	1.06	
RoE	Rs/kWh		0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62	
Total COG	Rs/kWh		12.99	9.16	9.49	9.83	10.20	10.59	10.99	11.42	11.87	12.35	12.85	13.38	13.93	14.52	15.14	15.78	16.23	16.99	17.78	18.62	19.50	20.55	21.52	22.53	23.59	24.71

Variable Cost (Rs/Unit)	6.45
Levelled Tariff (Fixed) (Rs/Unit)	2.87
Levelled Tariff (Rs/Unit)	9.33

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelled (Rs./Unit)	7.42
Electricity Generation (Levelled) (Rs./Unit)	6.04
Levelled benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 E						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3643.76	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		340.02	357.02	374.87	393.62	413.30	433.96	455.66	478.44	502.36	527.48	553.86	581.55	610.63	641.16	673.22	706.88	742.22	779.33	818.30	859.21	902.17	947.28	994.65	1,044.38	1,096.60
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.01	20.88	21.81	22.78	23.79	24.87	25.99	27.17	28.41	29.72	31.09	32.53	34.04	35.62	37.29	38.84	40.71	42.68	44.74	46.90	49.29	51.67	54.17	56.79	59.54
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	39.45	39.45	39.45
Total Fixed Cost	Rs Lakh		167.36	167.56	167.88	168.32	168.89	169.60	170.45	171.44	172.58	173.88	175.35	176.99	178.81	180.82	183.03	170.24	175.50	180.97	186.68	192.63	207.30	213.77	220.51	227.53	234.86

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.44	5.39	5.66	5.94	6.24	6.55	6.88	7.22	7.58	7.96	8.36	8.78	9.21	9.67	10.16	10.67	11.20	11.76	12.35	12.97	13.61	14.29	15.01	15.76	16.55	17.37
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.82	0.86	0.90	0.94
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.62	0.62	0.62	0.62
Total COG	Rs/kWh	11.23	8.04	8.31	8.60	8.90	9.22	9.56	9.92	10.30	10.69	11.11	11.55	12.02	12.51	13.02	13.57	13.90	14.54	15.22	15.92	16.67	17.58	18.40	19.25	20.15	21.10

Variable Cost (Rs/Unit)	5.39
Levillised Tariff (Fixed) (Rs/Unit)	2.79
Levillised Tariff (Rs/Unit)	8.18

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.01	0.00	0.00	
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	

Tax Benefit Levillised (Rs./Unit)	7.42
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 F								
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu								
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters			
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1			
			Auxiliary Consumption	%	10.00%			
			PLF	%	80.00%			
			Useful Life	Years	25			
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611			
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%			
			Equity	%	30%			
			Total Debt Amount	Rs Lakh	427.70			
			Total Equity Amount	Rs Lakh	183.30			
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70		
			Moratorium Period	years	0			
			Repayment Period(incld Moratorium)	years	15			
			Interest Rate	%	9.12%			
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30		
			Return on Equity (upto 20 years)	% p.a	16.96%			
			Return on Equity (After 20 years)		21.52%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%			
			MAT Rate	%	17.47%			
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%		
			Depreciation Rate 16th year onwards	%	2.00%			
			Discount Rate (equiv. to WACC)	%	8.35%			
			5	Working Capital	<u>For Fixed Charges</u>			
						O&M Charges	Months	1
			Maintenance Spare	(% of O&M expenses)	15.00%			
			Receivables for Debtors	Months	1.5			
			<u>For Variable Charges</u>					
			Biomass Stock	Months	4			
			Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125			
			During stabilization period	Kcal/kWh	4125			
			Base Price	Rs/T	3607.38			
			GCV-Biomass	Kcal/kg	3100.00			
			Biomass Price Escalation Factor		5.00%			
7	Operation & Maintenance		O&M Expenses	Rs Lakh	50.05			
			O & M Expenses Escalation	%	3.84%			
8	Generation & Sale of Energy		Total No .Of Hours	Hrs	8766			

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		336.62	353.46	371.13	389.68	409.17	429.63	451.11	473.66	497.35	522.21	548.33	575.74	604.53	634.76	666.49	699.82	734.81	771.55	810.13	850.63	893.16	937.82	984.71	1,033.95	1,085.65

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		19.84	20.71	21.62	22.58	23.59	24.65	25.77	26.94	28.17	29.46	30.81	32.24	33.74	35.31	36.96	38.49	40.35	42.29	44.34	46.48	48.84	51.20	53.68	56.28	59.00
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.20	167.39	167.70	168.13	168.69	169.39	170.22	171.20	172.33	173.62	175.08	176.71	178.51	180.51	182.70	189.89	175.13	180.59	186.28	192.21	206.86	213.30	220.02	227.02	234.32

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.36	5.33	5.60	5.88	6.17	6.48	6.81	7.15	7.50	7.88	8.27	8.69	9.12	9.58	10.06	10.56	11.09	11.64	12.22	12.84	13.48	14.15	14.86	15.60	16.38	17.20
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.47	0.31	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.45	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	0.89	0.93
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.14	7.98	8.25	8.54	8.84	9.16	9.49	9.84	10.22	10.61	11.02	11.46	11.92	12.41	12.92	13.45	13.78	14.42	15.09	15.79	16.52	17.43	18.24	19.09	19.98	20.91

Variable Cost (Rs/Unit)	5.33
Levelised Tariff (Fixed) (Rs/Unit)	2.79
Levelised Tariff (Rs/Unit)	8.12

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-9.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.42
Electricity Generation (Levelised) (Rs./Unit)	6.04
Levelised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 G						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			Debt Component	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			Equity Component	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
	Discount Rate (equiv. to WACC)	%	8.35%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			For Variable Charges			
			Biomass Stock	Months	4	
	Interest On Working Capital	%	10.62%			
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3666.92	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.31	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	6.31	6.31	6.31	6.31	6.31	6.31

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51	28.51
Interest on term loan	Rs Lakh		37.69	35.09	32.49	29.90	27.30	24.70	22.10	19.50	16.90	14.30	11.70	9.10	6.50	3.90	1.30	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		20.11	21.00	21.92	22.90	23.92	25.00	26.13	27.32	28.57	29.88	31.26	32.71	34.23	35.82	37.50	39.06	40.95	42.92	45.00	47.17	49.57	51.97	54.48	57.12	59.89
Return on Equity	Rs Lakh		31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Total Fixed Cost	Rs Lakh		167.47	167.67	168.00	168.45	169.02	169.74	170.59	171.59	172.74	174.05	175.53	177.18	179.01	181.02	183.24	185.64	188.22	190.99	193.94	197.07	200.38	203.87	207.54	211.39	215.42

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.49	5.42	5.69	5.98	6.28	6.59	6.92	7.27	7.63	8.01	8.41	8.83	9.27	9.74	10.22	10.73	11.27	11.83	12.43	13.05	13.70	14.38	15.10	15.86	16.65	17.48
O&M expn	Rs/kWh	1.11	0.79	0.82	0.86	0.89	0.92	0.96	0.99	1.03	1.07	1.11	1.16	1.20	1.25	1.29	1.34	1.40	1.45	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.96
Depreciation	Rs/kWh	0.40	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Int. on term loan	Rs/kWh	0.30	0.60	0.56	0.51	0.47	0.43	0.39	0.35	0.31	0.27	0.23	0.19	0.14	0.10	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.48	0.32	0.33	0.35	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.75	0.79	0.82	0.86	0.90	0.95
RoE	Rs/kWh	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Total COG	Rs/kWh	11.29	8.07	8.35	8.64	8.94	9.27	9.61	9.97	10.35	10.75	11.17	11.61	12.08	12.57	13.09	13.64	13.97	14.62	15.30	16.01	16.76	17.67	18.50	19.36	20.26	21.21

Variable Cost (Rs/Unit)	5.42
Levillised Tariff (Fixed) (Rs/Unit)	2.79
Levillised Tariff (Rs/Unit)	8.21

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	611.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.13	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	32.26	17.60	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Depm.	Rs Lakh	183.30	213.85	85.54	51.32	30.79	18.48	11.09	6.65	3.99	2.39	1.44	0.86	0.52	0.31	0.19	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	167.17	181.59	53.28	19.06	-1.47	-13.78	-21.17	-25.61	-28.27	-29.87	-30.82	-31.40	-31.74	-31.95	-32.07	-32.15	-32.19	-17.56	0.02	0.01	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	58.42	63.45	18.62	6.66	-0.51	-4.82	-7.40	-8.95	-9.88	-10.44	-10.77	-10.97	-11.09	-11.16	-11.21	-11.23	-11.25	-6.13	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.16	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	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	1.85	1.01	0.29	0.11	-0.01	-0.08	-0.12	-0.14	-0.16	-0.17	-0.17	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.42
Electricity Generation (Levillised) (Rs./Unit)	6.04
Levillised benefit (Rs./Unit)	0.12

RE Tariff Proposal for FY 2022-23

Annexure 2.7 H							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	10.00%		
			PLF	%	80.00%		
2	Project Cost	Capital Cost/MW	Useful Life	Years	25		
			Power Plant Cost	Rs Lakh/MW	611		
3	Financial Assumptions	Debt: Equity	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	427.70		
		Debt Component	Total Equity Amount	Rs Lakh	183.30		
			Loan Amount	Rs Lakh	427.70		
			Moratorium Period	years	0		
		Equity Component	Repayment Period(incld Moratorium)	years	15		
			Interest Rate	%	9.12%		
			Equity amount	Rs Lakh	183.30		
		4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
					MAT Rate	%	17.47%
					Depreciation	%	4.67%
		5	Working Capital	For Fixed Charges	Depreciation Rate (Power Plant)	%	2.00%
Depreciation Rate 16th year onwards	%				2.00%		
For Variable Charges							
6	Fuel Related Assumptions	Heat Rate	Biomass Stock	Months	4		
			Interest On Working Capital	%	10.62%		
			After stabilization period	Kcal/kWh	4125		
7	Operation & Maintenance	O&M Expenses	During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3730.86		
			GCV-Biomass	Kcal/kg	3100.00		
8	Generation & Sale of Energy	Total No .Of Hours	Biomass Price Escalation Factor		5.00%		
			O & M Expenses Escalation	%	3.84%		
				Rs Lakh	50.05		

RE Tariff Proposal for FY 2022-23

Annexure 2.7 I						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	10.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	611	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	427.70	
			Total Equity Amount	Rs Lakh	183.30	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	427.70
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	183.30
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3921.59	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.8 A						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Andhra Pradesh						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3666.92	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MJ		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		342.18	359.29	377.25	396.12	415.92	436.72	458.55	481.48	505.56	530.83	557.38	585.24	614.51	645.23	677.49	711.37	746.94	784.28	823.50	864.67	907.91	953.30	1,000.97	1,051.01	1,103.56

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.20	21.08	22.01	22.98	24.00	25.08	26.21	27.39	28.64	29.95	31.32	32.77	34.29	35.88	37.56	39.10	40.98	42.96	45.04	47.21	49.62	52.01	54.53	57.16	59.93
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		174.09	174.12	174.26	174.53	174.93	175.47	176.15	176.97	177.94	179.08	180.37	181.85	183.50	185.34	187.38	173.41	178.67	184.16	189.89	195.85	211.10	217.58	224.33	231.37	238.71

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.69	5.54	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48	9.96	10.46	10.98	11.53	12.10	12.71	13.34	14.01	14.71	15.45	16.22	17.03	17.88
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.49	0.51	0.53	0.56	0.58	0.61	0.63	0.66	0.70	0.73	0.77	0.80	0.84	0.88	0.93	0.97
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	11.63	8.37	8.64	8.94	9.25	9.57	9.92	10.28	10.67	11.08	11.50	11.95	12.43	12.93	13.46	14.01	14.34	15.00	15.69	16.42	17.18	18.13	18.97	19.85	20.78	21.75

Variable Cost (Rs/Unit)	5.54
Levillised Tariff (Fixed) (Rs/Unit)	2.94
Levillised Tariff (Rs/Unit)	8.48

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MJ	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.92
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.8 B						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Haryana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4174.07	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		389.50	408.98	429.43	450.90	473.45	497.12	521.97	548.07	575.48	604.25	634.46	666.19	699.49	734.47	771.19	809.75	850.24	892.75	937.39	984.26	1,033.47	1,085.15	1,139.40	1,196.37	1,256.19

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.54	23.53	24.58	25.68	26.84	28.06	29.33	30.68	32.09	33.57	35.13	36.76	38.48	40.28	42.18	43.95	46.08	48.31	50.65	53.11	55.81	58.51	61.35	64.33	67.46
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		176.42	176.57	176.84	177.24	177.77	178.45	179.27	180.25	181.39	182.70	184.18	185.84	187.69	189.74	192.00	178.26	183.77	189.51	195.50	201.75	217.29	224.08	231.16	238.54	246.24

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	9.89	6.31	6.63	6.96	7.31	7.67	8.06	8.46	8.88	9.33	9.79	10.28	10.79	11.33	11.90	12.50	13.12	13.78	14.47	15.19	15.95	16.75	17.58	18.46	19.39	20.36
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.55	0.37	0.38	0.40	0.42	0.43	0.45	0.48	0.50	0.52	0.54	0.57	0.60	0.62	0.65	0.68	0.71	0.75	0.78	0.82	0.86	0.90	0.95	0.99	1.04	1.09
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	0.54
Total COG	Rs/kWh	12.89	9.17	9.49	9.82	10.18	10.55	10.95	11.36	11.80	12.26	12.75	13.27	13.81	14.38	14.98	15.61	16.01	16.76	17.54	18.36	19.22	20.27	21.21	22.21	23.25	24.35

Variable Cost (Rs/Unit)	6.31
Levilled Tariff (Fixed) (Rs/Unit)	3.00
Levilled Tariff (Rs/Unit)	9.31

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.8 C						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Maharashtra						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4268.88	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		398.35	418.27	439.18	461.14	484.20	508.41	533.83	560.52	588.55	617.98	648.87	681.32	715.38	751.15	788.71	828.15	869.55	913.03	958.68	####	1,056.95	1,109.80	1,165.29	1,223.55	1,284.73
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.97	23.99	25.06	26.19	27.37	28.61	29.92	31.29	32.73	34.25	35.84	37.51	39.26	41.11	43.04	44.86	47.03	49.31	51.70	54.21	56.97	59.73	62.63	65.67	68.87
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		176.86	177.02	177.32	177.74	178.30	179.01	179.86	180.86	182.03	183.37	184.89	186.59	188.48	190.57	192.86	197.17	184.72	190.51	196.55	202.85	218.45	225.29	232.44	239.88	247.65

Levelised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.11	6.45	6.78	7.12	7.47	7.85	8.24	8.65	9.08	9.54	10.01	10.51	11.04	11.59	12.17	12.78	13.42	14.09	14.79	15.53	16.31	17.13	17.98	18.88	19.83	20.82
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.56	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	0.67	0.70	0.73	0.76	0.80	0.84	0.88	0.92	0.97	1.01	1.06	1.12
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	13.12	9.32	9.65	9.99	10.35	10.74	11.14	11.56	12.01	12.49	12.99	13.51	14.06	14.65	15.26	15.91	16.32	17.08	17.88	18.72	19.60	20.67	21.63	22.65	23.71	24.83

Variable Cost (Rs/Unit)	6.45
Levelised Tariff (Fixed) (Rs/Unit)	3.01
Levelised Tariff (Rs/Unit)	9.46

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levelised (Rs./Unit)	7.92
Electricity Generation (Levelised) (Rs./Unit)	5.91
Levelised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.8 D						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Punjab						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	4365.90	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		407.41	427.78	449.17	471.62	495.20	519.96	545.96	573.26	601.92	632.02	663.62	696.80	731.64	768.22	806.64	846.97	889.32	933.78	980.47	####	1,080.97	1,135.02	1,191.77	1,251.36	1,313.93

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		23.42	24.46	25.55	26.70	27.91	29.18	30.52	31.92	33.39	34.94	36.56	38.27	40.06	41.95	43.93	45.79	48.01	50.33	52.78	55.34	58.15	60.97	63.94	67.05	70.31
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	42.09	42.09	42.09	42.09
Total Fixed Cost	Rs Lakh		177.30	177.49	177.81	178.26	178.84	179.57	180.46	181.49	182.69	184.07	185.61	187.35	189.28	191.41	193.75	190.09	185.70	191.54	197.63	203.98	219.63	226.54	233.74	241.25	249.09

Levillised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	10.34	6.60	6.93	7.28	7.64	8.02	8.43	8.85	9.29	9.75	10.24	10.75	11.29	11.86	12.45	13.07	13.72	14.41	15.13	15.89	16.68	17.52	18.39	19.31	20.28	21.29
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.57	0.38	0.40	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99	1.04	1.09	1.14
RoE	Rs/kWh	0.55	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	0.68	0.68	0.68	0.68	0.68
Total COG	Rs/kWh	13.36	9.47	9.81	10.16	10.53	10.92	11.34	11.77	12.23	12.71	13.22	13.76	14.33	14.92	15.55	16.21	16.64	17.42	18.23	19.09	19.99	21.08	22.06	23.10	24.19	25.33

Variable Cost (Rs/Unit)	6.60
Levillised Tariff (Fixed) (Rs/Unit)	3.02
Levillised Tariff (Rs/Unit)	9.62

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levillised (Rs./Unit)	7.92
Electricity Generation (Levillised) (Rs./Unit)	5.91
Levillised benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.8 E						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Rajasthan						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3643.76	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		340.02	357.02	374.87	393.62	413.30	433.96	455.66	478.44	502.36	527.48	553.86	581.55	610.63	641.16	673.22	706.88	742.22	779.33	818.30	859.21	902.17	947.28	994.65	1,044.38	1,096.60

Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04	13.04
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.09	20.97	21.89	22.86	23.87	24.94	26.06	27.24	28.48	29.78	31.15	32.59	34.10	35.68	37.35	38.88	40.75	42.72	44.78	46.94	49.33	51.72	54.22	56.84	59.59
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		173.98	174.00	174.15	174.41	174.80	175.33	176.00	176.82	177.78	178.91	180.20	181.67	183.31	185.14	187.17	173.19	178.44	183.92	189.63	195.58	210.81	217.28	224.02	231.05	238.37

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.63	5.51	5.79	6.07	6.38	6.70	7.03	7.38	7.75	8.14	8.55	8.97	9.42	9.89	10.39	10.91	11.45	12.03	12.63	13.26	13.92	14.62	15.35	16.12	16.92	17.77
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	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	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.49	0.33	0.34	0.35	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.61	0.63	0.66	0.69	0.73	0.76	0.80	0.84	0.88	0.92	0.97
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	0.54
Total COG	Rs/kWh	11.57	8.33	8.60	8.90	9.20	9.53	9.87	10.24	10.62	11.02	11.45	11.89	12.37	12.87	13.39	13.94	14.26	14.92	15.61	16.33	17.09	18.03	18.87	19.75	20.67	21.63

Variable Cost (Rs/Unit)	5.51
Levilled Tariff (Fixed) (Rs/Unit)	2.94
Levilled Tariff (Rs/Unit)	8.45

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depm.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

RE Tariff Proposal for FY 2022-23

Annexure 2.8 F						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Tamil Nadu						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
			Discount Rate (equiv. to WACC)	%	8.35%	
			4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax
MAT Rate	%	17.47%				
<u>Depreciation</u>	Depreciation Rate(Power Plant)	%				4.67%
Depreciation Rate 16th year onwards	%	2.00%				
5	Working Capital	<u>For Fixed Charges</u>				
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)		15.00%
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3607.38	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.8 G						
Assumptions for Biomass Based Rankine Cycle Project Parameters: Telangana						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	12.00%	
			PLF	%	80.00%	
2	Project Cost	Capital Cost/MW	Useful Life	Years	25	
			Power Plant Cost	Rs Lakh/MW	652	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	456.40	
			Total Equity Amount	Rs Lakh	195.60	
			<u>Debt Component</u>	Loan Amount	Rs Lakh	456.40
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	15	
			Interest Rate	%	9.12%	
			<u>Equity Component</u>	Equity amount	Rs Lakh	195.60
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (After 20 years)		21.52%	
Discount Rate (equiv. to WACC)	%	8.35%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
			<u>Depreciation</u>	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
			Receivables for Debtors	Months	1.5	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
			Interest On Working Capital	%	10.62%	
6	Fuel Related Assumptions	<u>Heat Rate</u>	After stabilization period	Kcal/kWh	4125	
			During stabilization period	Kcal/kWh	4125	
			Base Price	Rs/T	3666.92	
			GCV-Biomass	Kcal/kg	3100.00	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05	
			O & M Expenses Escalation	%	3.84%	
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766	

RE Tariff Proposal for FY 2022-23

Annexure 2.8 H							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Uttar Pradesh							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652		
3	Financial Assumptions	Debt: Equity	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	456.40		
					Total Equity Amount	Rs Lakh	195.60
				Debt Component	Loan Amount	Rs Lakh	456.40
					Moratorium Period	years	0
					Repayment Period(incld Moratorium)	years	15
					Interest Rate	%	9.12%
				Equity Component	Equity amount	Rs Lakh	195.60
					Return on Equity (upto 20 years)	% p.a	16.96%
					Return on Equity (After 20 years)		21.52%
					Discount Rate (equiv. to WACC)	%	8.35%
		4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
MAT Rate	%				17.47%		
	Depreciation			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges					
		O&M Charges		Months	1		
		Maintenance Spare	(% of O&M expenses)		15.00%		
		Receivables for Debtors		Months	1.5		
		For Variable Charges					
		Biomass Stock		Months	4		
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3730.86		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component for Biomass based Rankine cycle Project

Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17

Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Biomass Cost	Rs. Lakh		348.15	365.55	383.83	403.02	423.17	444.33	466.55	489.88	514.37	540.09	567.09	595.45	625.22	656.48	689.31	723.77	759.96	797.96	837.86	879.75	923.74	969.92	1,018.42	1,069.34	1,122.81
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		50.05	51.98	53.97	56.04	58.20	60.43	62.75	65.16	67.66	70.26	72.96	75.76	78.67	81.69	84.83	88.09	91.47	94.98	98.63	102.41	106.35	110.43	114.67	119.08	123.65
Depreciation	Rs Lakh		30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43
Interest on term loan	Rs Lakh		40.22	37.45	34.68	31.90	29.13	26.35	23.58	20.81	18.03	15.26	12.48	9.71	6.94	4.16	1.39	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		20.50	21.39	22.33	23.32	24.36	25.45	26.60	27.81	29.07	30.41	31.80	33.27	34.82	36.44	38.14	39.71	41.63	43.64	45.74	47.96	50.40	52.83	55.39	58.07	60.88
Return on Equity	Rs Lakh		33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18	33.18
Total Fixed Cost	Rs Lakh		174.38	174.42	174.59	174.87	175.29	175.85	176.54	177.38	178.38	179.53	180.85	182.35	184.03	185.90	187.96	174.02	179.32	184.84	190.59	196.59	211.88	218.40	225.19	232.28	239.66

Levilled tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Per unit Variable Cost	Rs/kWh	8.84	5.64	5.92	6.22	6.53	6.86	7.20	7.56	7.94	8.33	8.75	9.19	9.65	10.13	10.64	11.17	11.73	12.31	12.93	13.58	14.26	14.97	15.72	16.50	17.33	18.19
O&M expn	Rs/kWh	1.14	0.81	0.84	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.43	1.48	1.54	1.60	1.66	1.72	1.79	1.86	1.93	2.00
Depreciation	Rs/kWh	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	0.33	0.65	0.61	0.56	0.52	0.47	0.43	0.38	0.34	0.29	0.25	0.20	0.16	0.11	0.07	0.02	-	-	-	-	-	-	-	-	-	-
Int. on working capital	Rs/kWh	0.50	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56	0.59	0.62	0.64	0.67	0.71	0.74	0.78	0.82	0.86	0.90	0.94	0.99
RoE	Rs/kWh	0.55	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	0.54	0.54	0.54	0.54	0.54
Total COG	Rs/kWh	11.79	8.47	8.75	9.05	9.36	9.70	10.05	10.42	10.81	11.23	11.66	12.12	12.60	13.11	13.65	14.22	14.55	15.22	15.93	16.67	17.44	18.40	19.26	20.15	21.09	22.08

Variable Cost (Rs/Unit)	5.64
Levilled Tariff (Fixed) (Rs/Unit)	2.95
Levilled Tariff(Rs/Unit)	8.59

Determination of Additional Depreciation for Biomass Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.47%
Income Tax (Normal Rates)	34.94%
Capital Cost	652.00

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	17.21	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	34.43	18.78	0.00	0.00	0.00	0.00	0.00	0.00

Accelerated Depreciation

Opening	%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accelerated Depn.	Rs Lakh	195.60	228.20	91.28	54.77	32.86	19.72	11.83	7.10	4.26	2.56	1.53	0.92	0.55	0.33	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	178.39	193.77	56.85	20.34	-1.56	-14.71	-22.60	-27.33	-30.17	-31.87	-32.89	-33.51	-33.87	-34.09	-34.23	-34.31	-34.35	-18.73	0.03	0.02	0.01	0.01	0.00	0.00	0.00
Tax Benefit	Rs Lakh	62.34	67.71	19.87	7.11	-0.55	-5.14	-7.90	-9.55	-10.54	-11.14	-11.49	-11.71	-11.84	-11.91	-11.96	-11.99	-12.00	-6.55	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	3.09	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Per unit benefit	Rs/Unit	2.02	1.10	0.32	0.12	-0.01	-0.08	-0.13	-0.15	-0.17	-0.18	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.11	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
Applicable Discounting Factor		1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15

Tax Benefit Levilled (Rs./Unit)	7.92
Electricity Generation (Levilled) (Rs./Unit)	5.91
Levilled benefit (Rs./Unit)	0.13

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Annexure 2.8 I							
Assumptions for Biomass Based Rankine Cycle Project Parameters: Other States							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters		
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1		
			Auxiliary Consumption	%	12.00%		
			PLF	%	80.00%		
			Useful Life	Years	25		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	652		
3	Financial Assumptions	Debt: Equity	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lakh	456.40		
					Total Equity Amount	Rs Lakh	195.60
				Debt Component	Loan Amount	Rs Lakh	456.40
					Moratorium Period	years	0
					Repayment Period(incld Moratorium)	years	15
					Interest Rate	%	9.12%
				Equity Component	Equity amount	Rs Lakh	195.60
					Return on Equity (upto 20 years)	% p.a	16.96%
					Return on Equity (After 20 years)		21.52%
					Discount Rate (equiv. to WACC)	%	8.35%
		4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
MAT Rate	%				17.47%		
	Depreciation			Depreciation Rate(Power Plant)	%	4.67%	
				Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges					
		O&M Charges		Months	1		
		Maintenance Spare	(% of O&M expenses)		15.00%		
		Receivables for Debtors		Months	1.5		
		For Variable Charges					
		Biomass Stock		Months	4		
		Interest On Working Capital		%	10.62%		
6	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	4125		
			During stabilization period	Kcal/kWh	4125		
			Base Price	Rs/T	3921.59		
			GCV-Biomass	Kcal/kg	3100.00		
			Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses		Rs Lakh	50.05		
		O & M Expenses Escalation		%	3.84%		
8	Generation & Sale of Energy	Total No .Of Hours		Hrs	8766		

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3A	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Andhra Pradesh
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	8.50%
			Auxiliary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	For First 6 Months	45.00%
			PLF(during first year after Stablization)	Next six months	45.00%
			PLF(second year onwards)	Second Year Onwards	45.00%
			Useful Life	Years	25
			2	Project Cost	Capital Cost/MW
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	326.90
			Total Equity Amout	Rs Lakh	140.10
		Debt Component	Loan Amount	Rs Lakh	326.90
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	140.10
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
			Depreciation		
		Depreciation Rate(Power Plant)	%	4.67%	
		Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare (% of O&M exepenses)		15.00%
		Receivables for Debtors	Months	1.5	
		For Variable Charges			
		Biomass Stock	Months	4	
		Interest On Working Capital	%	10.62%	
6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh	26.44	
		Total O & M Expenses Escalation	%	3.84%	
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse	Base Price	Rs/T	2070.50
			GCV-Bagasse	Kcal/kg	2250.00
			Bagasse Price Escalation Factor		5.00%
8	Generation & Sale of Energy	Total No .Of Hours			8766.00

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3B	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Haryana
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	8.50%
			Auxiliary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	For First 6 Months	53.00%
			PLF(during first year after Stablization)	Next six months	53.00%
			PLF(second year onwards)	Second Year Onwards	53.00%
			Useful Life	Years	25
			2	Project Cost	Capital Cost/MW
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	326.90
			Total Equity Amout	Rs Lakh	140.10
		Debt Component	Loan Amount	Rs Lakh	326.90
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	140.10
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges			
		O&M Charges	Months	1	
		Maintenance Spare (% of O&M exepenses)		15.00%	
		Receivables for Debtors	Months	1.5	
		For Variable Charges			
		Biomass Stock	Months	4	
		Interest On Working Capital	%	10.62%	
6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh	26.44	
		Total O & M Expenses Escalation	%	3.84%	
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse	Base Price	Rs/T	2944.78
			GCV-Bagasse	Kcal/kg	2250.00
			Bagasse Price Escalation Factor		5.00%
8	Generation & Sale of Energy	Total No .Of Hours		8766.00	

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3C	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Maharashtra
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	8.50%
			Auxiliary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	For First 6 Months	60.00%
			PLF(during first year after Stablization)	Next six months	60.00%
			PLF(second year onwards)	Second Year Onwards	60.00%
			Useful Life	Years	25
			2	Project Cost	Capital Cost/MW
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	326.90
			Total Equity Amout	Rs Lakh	140.10
		Debt Component	Loan Amount	Rs Lakh	326.90
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	140.10
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
			Depreciation		
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges			
		O&M Charges	Months	1	
		Maintenance Spare (% of O&M exepenses)		15.00%	
		Receivables for Debtors	Months	1.5	
		For Variable Charges			
		Biomass Stock	Months	4	
6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh	26.44	
		Total O & M Expenses Escalation	%	3.84%	
		Interest On Working Capital	%	10.62%	
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse	Base Price	Rs/T	2901.78
			GCV-Bagasse	Kcal/kg	2250.00
			Bagasse Price Escalation Factor		5.00%
			Total No .Of Hours		8766.00

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3D	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Punjab
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	8.50%
			Auxiliary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	For First 6 Months	53.00%
			PLF(during first year after Stablization)	Next six months	53.00%
			PLF(second year onwards)	Second Year Onwards	53.00%
			Useful Life	Years	25
			2	Project Cost	Capital Cost/MW
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	326.90
			Total Equity Amout	Rs Lakh	140.10
		Debt Component	Loan Amount	Rs Lakh	326.90
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	140.10
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
			Depreciation		
		Depreciation Rate(Power Plant)	%	4.67%	
		Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare (% of O&M exepenses)		15.00%
		Receivables for Debtors	Months	1.5	
		For Variable Charges			
		Biomass Stock	Months	4	
		Interest On Working Capital	%	10.62%	
		6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh
Total O & M Expenses Escalation	%	3.84%			
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse	Base Price	Rs/T	2591.98
			GCV-Bagasse	Kcal/kg	2250.00
			Bagasse Price Escalation Factor		5.00%
8	Generation & Sale of Energy	Total No .Of Hours		8766.00	

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3E		
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Tamil Nadu	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption during stabilisation	%	8.50%	
			Auxiliary Consumption after stabilisation	%	8.50%	
			PLF(Stablization for 6 months)	For First 6 Months	60.00%	
			PLF(during first year after Stablization)	Next six months	60.00%	
			PLF(second year onwards)	Second Year Onwards	60.00%	
			Useful Life	Years	25	
			2	Project Cost	Capital Cost/MW	Power Plant Cost
3	Sources of Fund	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lakh	326.90	
			Total Equity Amout	Rs Lakh	140.10	
		Debt Component	Loan Amount	Rs Lakh	326.90	
			Moratorium Period	years	0	
			Repayment Period	years	15	
			Interest Rate	%	9.12%	
		Equity Component	Equity amount	Rs Lacs	140.10	
			Return on Equity (upto 20 years)	% p.a	16.96%	
			Return on Equity (after 20 years)	% p.a	21.52%	
			Discount Rate		8.35%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%	
			MAT Rate	%	17.47%	
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%	
			Depreciation Rate 16th year onwards	%	2.00%	
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15.00%	
		For Variable Charges	Receivables for Debtors	Months	1.5	
			Biomass Stock	Months	4	
		Interest On Working Capital	%	10.62%		
		6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh	26.44
				Total O & M Expenses Escalation	%	3.84%
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00	
			During stabilization period	Kcal/kWh	3600.00	
		Bagasse	Base Price	Rs/T	2230.36	
			GCV-Bagasse	Kcal/kg	2250.00	
			Bagasse Price Escalation Factor		5.00%	
8	Generation & Sale of Energy	Total No .Of Hours			8766.00	

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3F		
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Telangana	
1	Power Generation	Capacity				
		Installed Power Generation Capacity		MW	1	
		Auxiliary Consumption during stabilisation		%	8.50%	
		Auxiliary Consumption after stabilisation		%	8.50%	
		PLF(Stablization for 6 months)		For First 6 Months	53.00%	
		PLF(during first year after Stablization)		Next six months	53.00%	
		PLF(second year onwards)		Second Year Onwards	53.00%	
		Useful Life		Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	467.00	
3	Sources of Fund	Debt: Equity				
		Debt		%	70%	
		Equity		%	30%	
		Total Debt Amount		Rs Lakh	326.90	
		Total Equity Amout		Rs Lakh	140.10	
		Debt Component				
		Loan Amount		Rs Lakh	326.90	
		Moratorium Period		years	0	
		Repayment Period		years	15	
		Interest Rate		%	9.12%	
		Equity Component				
		Equity amount		Rs Lacs	140.10	
		Return on Equity (upto 20 years)		% p.a	16.96%	
Return on Equity (after 20 years)		% p.a	21.52%			
Discount Rate			8.35%			
4	Financial Assumptions	Fiscal Assumptions				
		Income Tax		%	34.94%	
		MAT Rate		%	17.47%	
		Depreciation				
		Depreciation Rate(Power Plant)		%	4.67%	
Depreciation Rate 16th year onwards		%	2.00%			
5	Working Capital	For Fixed Charges				
		O&M Charges		Months	1	
		Maintenance Spare	(% of O&M exepenses)			15.00%
		Receivables for Debtors		Months	1.5	
		For Variable Charges				
		Biomass Stock		Months	4	
		Interest On Working Capital		%	10.62%	
6	Operation & Maintenance	O&M Cost of power plant		Rs Lakh	26.44	
		Total O & M Expenses Escalation		%	3.84%	
7	Fuel Related Assumptions	Heat Rate		Kcal/kWh	3600.00	
			After stabilization period	Kcal/kWh	3600.00	
			During stabilization period	Kcal/kWh	3600.00	
		Bagasse				
		Base Price		Rs/T	2069.39	
		GCV-Bagasse		Kcal/kg	2250.00	
Bagasse Price Escalation Factor			5.00%			
8	Generation & Sale of Energy	Total No .Of Hours			8766.00	

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3G	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Uttar Pradesh
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	8.50%
			Auxiliary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	For First 6 Months	45.00%
			PLF(during first year after Stablization)	Next six months	45.00%
			PLF(second year onwards)	Second Year Onwards	45.00%
			Useful Life	Years	25
			2	Project Cost	Capital Cost/MW
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	326.90
			Total Equity Amout	Rs Lakh	140.10
		Debt Component	Loan Amount	Rs Lakh	326.90
			Moratorium Period	years	0
			Repayment Period	years	15
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	140.10
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
			Depreciation		
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges			
		O&M Charges	Months	1	
		Maintenance Spare (% of O&M exepenses)		15.00%	
		Receivables for Debtors	Months	1.5	
		For Variable Charges			
		Biomass Stock	Months	4	
Interest On Working Capital	%	10.62%			
6	Operation & Maintenance	O&M Cost of power plant	Rs Lakh	26.44	
		Total O & M Expenses Escalation	%	3.84%	
7	Fuel Related Assumptions	Heat Rate	After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse	Base Price	Rs/T	2309.74
			GCV-Bagasse	Kcal/kg	2250.00
			Bagasse Price Escalation Factor		5.00%
8	Generation & Sale of Energy	Total No .Of Hours			8766.00

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Assumptions for Non-Fossil Fuel based co-generation Project				Annexure - 3H	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Other States
1	Power Generation	Capacity			
		Installed Power Generation Capacity		MW	1
		Auxiliary Consumption during stabilisation		%	8.50%
		Auxiliary Consumption after stabilisation		%	8.50%
		PLF(Stablization for 6 months)		For First 6 Months	53.00%
		PLF(during first year after Stablization)		Next six months	53.00%
		PLF(second year onwards)		Second Year Onwards	53.00%
		Useful Life		Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	467.00
3	Sources of Fund	Debt: Equity			
		Debt		%	70%
		Equity		%	30%
		Total Debt Amount		Rs Lakh	326.90
		Total Equity Amout		Rs Lakh	140.10
		Debt Component			
		Loan Amount		Rs Lakh	326.90
		Moratorium Period		years	0
		Repayment Period		years	15
		Interest Rate		%	9.12%
		Equity Component			
		Equity amount		Rs Lacs	140.10
		Return on Equity (upto 20 years)		% p.a	16.96%
Return on Equity (after 20 years)		% p.a	21.52%		
Discount Rate			8.35%		
4	Financial Assumptions	Fiscal Assumptions			
		Income Tax		%	34.94%
		MAT Rate		%	17.47%
		Depreciation			
		Depreciation Rate(Power Plant)		%	4.67%
Depreciation Rate 16th year onwards		%	2.00%		
5	Working Capital	For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare (% of O&M exepenses)			15.00%
		Receivables for Debtors		Months	1.5
		For Variable Charges			
		Biomass Stock		Months	4
		Interest On Working Capital		%	10.62%
6	Operation & Maintenance	O&M Cost of power plant		Rs Lakh	26.44
		Total O & M Expenses Escalation		%	3.84%
7	Fuel Related Assumptions	Heat Rate		Kcal/kWh	3600.00
			After stabilization period	Kcal/kWh	3600.00
			During stabilization period	Kcal/kWh	3600.00
		Bagasse			
		Base Price		Rs/T	2507.09
		GCV-Bagasse		Kcal/kg	2250.00
Bagasse Price Escalation Factor			5.00%		
8	Generation & Sale of Energy	Total No .Of Hours			8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Andhra Pradesh					Annexure-4A
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3666.92
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Haryana					Annexure-4B
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	4174.07
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Maharashtra					Annexure-4C
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	4268.88
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Punjab					Annexure-4D
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	4365.90
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Rajasthan					Annexure-4E
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3643.76
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Tamil Nadu					Annexure-4F
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3607.38
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Telangana					Annexure-4G
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3666.92
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Uttar Pradesh					Annexure-4H
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3730.86
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Biomass Gasifier Power Projects- Other States					Annexure-4I
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption during stabilisation	%	10%
			Auxiliary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	For First 6 Months	85%
			PLF(during first year after Stablization)	Next six months	85%
			PLF(second year onwards)	2 nd Year Onwards	85%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	443.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	310.10
			Total Equity Amout	Rs Lakh	132.90
		Debt Component	Loan Amount	Rs Lakh	310.10
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	132.90
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3921.59
			Biomass Price Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

RE Tariff Proposal for FY 2022-23

Determination of Tariff Component : Biomass Gasifier Power Project

Units Generation		Unit	Year-->																									
Installed Capacity		MW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Net Generation		MU	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71
Variable Cost		Unit	Year-->																									
Biomass Cost		Rs. Lakh	365.25	383.51	402.69	422.83	443.97	466.16	489.47	513.95	539.64	566.63	594.96	624.71	655.94	688.74	723.17	759.33	797.30	837.16	879.02	922.97	969.12	1017.58	1068.46	1121.88	1177.97	
Per unit Variable Cost		Rs/kWh	5.45	5.72	6.00	6.31	6.62	6.95	7.30	7.66	8.05	8.45	8.87	9.32	9.78	10.27	10.78	11.32	11.89	12.48	13.11	13.76	14.45	15.17	15.93	16.73	17.57	
Fixed Cost		Unit	Year-->																									
O&M Expenses		Rs Lakh	66.11	68.65	71.28	74.02	76.86	79.81	82.88	86.06	89.37	92.80	96.36	100.06	103.91	107.90	112.04	116.34	120.81	125.45	130.26	135.27	140.46	145.85	151.46	157.27	163.31	
Depreciation		Rs Lakh	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	20.69	8.86	8.86	8.86	8.86	8.86	8.86	8.86	8.86	8.86	8.86	
Interest on term loan		Rs Lakh	27.33	25.44	23.56	21.67	19.78	17.90	16.01	14.13	12.24	10.35	8.47	6.58	4.70	2.81	0.92	-	-	-	-	-	-	-	-	-	-	
Interest on working Capital		Rs Lakh	21.5	22.48	23.51	24.58	25.71	26.89	28.13	29.44	30.81	32.24	33.75	35.34	37.00	38.75	40.58	42.36	44.40	46.55	48.80	51.16	53.71	56.31	59.04	61.89	64.89	
Return on Equity		Rs Lakh	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55	
Total Fixed Cost		Rs Lakh	158.18	159.81	161.58	163.50	165.59	167.84	170.26	172.86	175.65	178.63	181.81	185.21	188.83	192.68	196.77	190.10	196.61	203.40	210.46	217.83	231.63	239.62	247.95	256.63	265.66	
Per unit Fixed Cost		Rs/kWh	2.69	2.36	2.38	2.41	2.44	2.47	2.50	2.54	2.58	2.62	2.66	2.71	2.76	2.82	2.87	2.93	2.83	2.93	3.03	3.14	3.25	3.45	3.57	3.70	3.83	3.96
Levillised tariff corresponding to Useful life																												
Per Unit Cost of Generation		Unit	Year-->																									
Per unit Variable Cost		Rs/kWh	8.53	5.45	5.72	6.00	6.31	6.62	6.95	7.30	7.66	8.05	8.45	8.87	9.32	9.78	10.27	10.78	11.32	11.89	12.48	13.11	13.76	14.45	15.17	15.93	16.73	17.57
O&M expn		Rs/kWh	1.38	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44	1.49	1.55	1.61	1.67	1.73	1.80	1.87	1.94	2.02	2.09	2.17	2.26	2.35	2.44
Depreciation		Rs/kWh	0.27	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Int. on term loan		Rs/kWh	0.20	0.41	0.38	0.35	0.32	0.30	0.27	0.24	0.21	0.18	0.15	0.13	0.10	0.07	0.04	0.01	-	-	-	-	-	-	-	-	-	
Int. on working capital		Rs/kWh	0.49	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.61	0.63	0.66	0.69	0.73	0.76	0.80	0.84	0.88	0.92	0.97
RoE		Rs/kWh	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.43	0.43	0.43	0.43	0.43	
Total COG		Rs/kWh	11.22	7.81	8.10	8.41	8.74	9.09	9.45	9.84	10.24	10.67	11.11	11.58	12.08	12.60	13.14	13.72	14.16	14.82	15.52	16.25	17.01	17.91	18.75	19.63	20.56	21.53
Discount Factor			1	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Variable Cost			5.45																									
Levillised Tariff (Fixed)			2.69																									
Levillised Tariff		Rs/Unit	8.13																									

Determination of Additional Depreciation for Biomass Gasifier Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	40%
Additional Depreciation	20%
Income Tax (MAT)	17.472%
Income Tax (Normal Rates)	34.944%
Capital Cost	443.00

Years		Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Book Depreciation		%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation		Rs Lakh	11.70	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	23.39	12.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Accelerated Depreciation																												
Opening		%	100%	70%	35%	21%	13%	8%	5%	3%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Allowed during the year		%	30.00%	35.00%	14.00%	8.40%	5.04%	3.02%	1.81%	1.09%	0.65%	0.39%	0.24%	0.14%	0.08%	0.05%	0.03%	0.02%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing		%	70.0%	35.0%	21.0%	12.6%	7.6%	4.5%	2.7%	1.6%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Accelerated Deprn.		Rs Lakh	132.90	155.05	62.02	37.21	22.33	13.40	8.04	4.82	2.89	1.74	1.04	0.63	0.38	0.23	0.14	0.08	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	
Net Depreciation Benefit		Rs Lakh	121.20	131.66	38.63	13.82	-1.06	-9.99	-15.35	-18.57	-20.50	-21.65	-22.35	-22.77	-23.02	-23.17	-23.26	-23.31	-23.34	-12.73	0.02	0.01	0.00	0.00	0.00	0.00	0.00	
Tax Benefit		Rs Lakh	42.35	46.01	13.50	4.83	-0.37	-3.49	-5.36	-6.49	-7.16	-7.57	-7.81	-7.96	-8.04	-8.09	-8.13	-8.15	-8.16	-4.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation		MU	3.35	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	6.71	
Per unit benefit		Rs/Unit	1.26	0.69	0.20	0.07	-0.01	-0.05	-0.08	-0.10	-0.11	-0.11	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor			1.00	0.92	0.85	0.79	0.73	0.67	0.62	0.57	0.53	0.49	0.45	0.41	0.38	0.35	0.33	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	
Applicable Discounting Factor			1.00	0.96	0.89	0.82	0.76	0.70	0.64	0.59	0.55	0.51	0.47	0.43	0.40	0.37	0.34	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	
Tax Benefit Levillised		5.38	Rs/Unit																									
Electricity Generation (Levillised)		6.42	Rs/Unit																									
Levillised benefit		0.08	Rs/Unit																									

RE Tariff Proposal for FY 2022-23

Biogas Power Projects					Annexure-5A
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Parameters
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxiliary Consumption	%	12%
			PLF	%	90%
			Useful Life	Years	25
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lakh/MW	886.00
3	Sources of Fund	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lakh	620.20
			Total Equity Amount	Rs Lakh	265.80
		Debt Component	Loan Amount	Rs Lakh	620.20
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	15.00
			Interest Rate	%	9.12%
		Equity Component	Equity amount	Rs Lacs	265.80
			Return on Equity (upto 20 years)	% p.a	16.96%
			Return on Equity (after 20 years)	% p.a	21.52%
			Discount Rate (Equiv. to WACC)		8.35%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	34.94%
			MAT Rate	%	17.47%
		Depreciation	Depreciation Rate(Power Plant)	%	4.67%
			Depreciation Rate 16th year onwards	%	2.00%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15.00%
			Receivables for Debtors	Months	1.5
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	10.62%
6	Fuel Related Assumptions	Biogas	Specific Fuel Consumption	kg/kWh	3
			Biogas Price	Rs/T	14567.76
			Substrate Pice Escalation Factor	%	5.00%
7	Operation & Maintenance		O&M Cost of power plant	Rs Lakh	66.11
			Total O & M Expenses Escalation	%	3.84%
8	Generation & Sale of Energy		Total No .Of Hours		8766.00

