

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. SM/354/2013 (Suo-Motu)**

**Coram: Shri Gireesh B. Pradhan, Chairperson  
Shri V. S. Verma, Member  
Shri M. Deena Dayalan, Member  
Shri A. K. Singhal, Member**

**Date of Order: 7<sup>th</sup> January, 2014**

**IN THE MATTER OF**

Determination of generic levellised generation tariff for the FY2014-15 under Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012.

**ORDER**

1. The Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012, on 06.02.2012 (hereinafter referred to as “the RE Tariff Regulations”), provide for terms and conditions and the procedure for determination of tariff of the following categories of Renewable Energy (RE) generating stations:

- (a) Wind Power Project;
- (b) Small Hydro Projects;
- (c) Biomass Power Projects with Rankine Cycle technology;
- (d) Non-fossil fuel-based co-generation Plants;
- (e) Solar Photo voltaic (PV);
- (f) Solar Thermal Power Projects;
- (g) Biomass Gasifier based Power Projects; and
- (h) Biogas based Power Project.

2. The Regulations enjoin upon the Commission to determine the generic tariff on the basis of the *suo-motu* petition, for the RE technologies for which norms have been provided in the RE Tariff Regulations. Generic Tariff is different from the project specific tariff for which a project developer has to file petition before the Commission as per the format provided in the RE Tariff Regulations. Pertinently, project specific tariff has been envisaged for the new RE technologies and the technologies which are still at the nascent stage of development, and the Commission shall determine the project specific tariff for such technologies on a case to case basis.
3. Clause (1) of Regulation 8 of the RE Tariff Regulations provides that “the Commission shall determine the generic tariff on the basis of *suo-motu* petition at least six months in advance at the beginning of each year of the Control period for renewable energy technologies for which norms have been specified under the Regulations”.
4. The Commission, in due discharge of the mandate under Regulation 8(1) of RE Tariff Regulations, proposes to determine the generic tariff for renewable energy technologies for the year 2014-15, as per the proposal enclosed as Annexure- I.
5. Comments /suggestions of the stakeholders on the above proposal are invited by 31<sup>st</sup> January, 2014.

Sd/-	Sd/-	Sd/-	Sd/-
[A.K.SINGHAL]	[M. DEENA DAYALAN]	[V.S.VERMA]	[GIREESH B. PRADHAN]
MEMBER	MEMBER	MEMBER	CHAIRPERSON

New Delhi

Dated the 7<sup>th</sup> January, 2014

**The proposed generic levellised generation tariff for various renewable energy technologies, for FY 2014-15**

1. The proposed generic levellised generation tariff for various renewable energy technologies, for FY 2014-15 are discussed below:

**USEFUL LIFE**

2. Clause (aa) of sub-Regulation (1) of Regulation 2 of the RE Tariff Regulations defines 'useful life' in relation to a unit of a generating station (including evacuation system) to mean the following duration from the date of commercial operation (COD) of such generation facility:

<b>Renewable Energy Projects</b>	<b>Years</b>
Wind energy	25
Small Hydro	35
Biomass power project with Rankine Cycle technology	20
Non-fossil fuel based co-generation	20
Solar PV	25
Solar Thermal	25
Biomass Gasifier	20
Biogas	20

**CONTROL PERIOD**

3. Regulation 5 of the RE Tariff Regulations provides that the control period for determination of tariff for renewable energy projects (RE projects) shall be of five years. The first year of the control period was from FY 2012-13. The Provision to the said regulation stipulates that the tariff determined for the RE projects commissioned during

the control period shall continue to be applicable for the entire duration of the tariff period as specified in Regulation 6 of the RE Tariff Regulations.

#### **TARIFF PERIOD**

4. In terms of Regulation 6 of the RE Tariff Regulations, the tariff period in respect of the RE projects is as under:

<b>Renewable Energy Projects</b>	<b>Years</b>
Wind energy	13
Small Hydro below 5 MW	35
Small Hydro (5 MW -25 MW)	13
Biomass	13
Non-fossil fuel co-generation	13
Solar PV and Solar Thermal	25
Biomass Gasifier and Biogas	20

In terms of clauses (e) and (f) of the said regulation, the tariff period specified above shall be reckoned from the date of commercial operation of the RE projects and the tariff determined under the regulations shall be applicable for the duration of the tariff period.

#### **TARIFF STRUCTURE**

5. Clause (1) of Regulation 9 of the RE Regulations stipulates that the tariff for RE projects shall be single part tariff consisting of the following fixed cost components:
- (a) Return on equity;
  - (b) Interest on loan capital;
  - (c) Depreciation;
  - (d) Interest on working capital;
  - (e) Operation and maintenance expenses;

For renewable energy technologies having fuel cost component, like biomass power projects and non-fossil fuel based cogeneration, single part tariff with two components, fixed cost component and fuel cost component, is to be determined.

#### **TARIFF DESIGN**

6. 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 for the Tariff Period.*

*Provided that for renewable energy technologies having single part tariff with two components, tariff shall be determined on levellised basis considering the year of commissioning of the project for fixed cost component while the fuel cost component shall be specified on year of operation basis.*

*(2) For the purpose of levellised tariff computation, the discount factor equivalent to Post Tax weighted average cost of capital shall be considered.*

*(3) Levellisation shall be carried out for the 'useful life' of the Renewable Energy project while Tariff shall be specified for the period equivalent to 'Tariff Period.'*

#### **LEVELLISED TARIFF**

7. Levellised Tariff is calculated by carrying out levellisation for 'useful life' of each technology considering the discount factor for time value of money.

### **Discount Factor**

8. The discount factor considered for this purpose is equal to the Post Tax weighted average cost of the capital on the basis of normative debt: equity ratio (70:30) specified in the Regulations. Considering the normative debt equity ratio and weighted average of the post tax rates for interest and equity component, the discount factor is calculated. Interest Rate considered for the loan component (i.e.70%) of Capital Cost is 12.70% (as explained later). For equity component (i.e. 30%) rate of Return on Equity (ROE) considered at Post Tax ROE of 16% considered. The discount factor derived by this method for all technology is 10.81%  $((12.7\% \times 0.70 \times (1 - 32.445\%)) + (16.0\% \times 0.30))$ .

### **CAPITAL COST**

9. Regulation 12 of the RE Tariff Regulations stipulates that the norms for the capital cost as specified in the technology specific chapter shall be inclusive of all capital works like plant and machinery, civil works, erection and commissioning, financing and interest during construction, and evacuation infrastructure up to inter-connection point. The Commission has specified the normative capital cost, applicable for the first year of control period i.e. FY 20012-13, for various RE technologies viz. Wind Energy, Small Hydro Power, Biomass Power, Non-Fossil Fuel based Cogeneration, Solar PV, Solar Thermal, Biomass Gasifier and Biogas based power projects.
10. In order to determine the normative capital cost for the remaining years of the control period, the regulations stipulate the indexation mechanism, Wind Energy, Small Hydro Power, Biomass Power, Non-Fossil Fuel based Cogeneration, Biomass Gasifier and Biogas based power projects. However, the Capital Cost norms for Solar PV and Solar Thermal Power Projects shall be reviewed on annual basis. The indexation mechanism shall take into account adjustments in capital cost with the changes in Wholesale Price Index of Steel and Wholesale Price Index of Electrical Machinery as per formulation stipulated under the RE Tariff Regulations, which is reproduced below.

$$CC_{(n)} = P\&M_{(n)} * (1+F_1+F_2+F_3)$$

$$P\&M_{(n)} = P\&M_{(0)} * (1+d_{(n)})$$

$$d_{(n)} = [a * \{(SI_{(n-1)}/SI_{(0)}) - 1\} + b * \{(EI_{(n-1)}/EI_{(0)}) - 1\}] / (a+b)$$

Where,

$CC_{(n)}$  = Capital Cost for n<sup>th</sup> year

$P\&M_{(n)}$  = Plant and Machinery Cost for n<sup>th</sup> year

$P\&M_{(0)}$  = Plant and Machinery Cost for the base year

Note:  $P\&M_{(0)}$  is to be computed by dividing the base capital cost (for the first year of the control period) by  $(1+F_1+F_2+F_3)$ . *Factors F1, F2, F3 for each RE technology has been specified separately, as summarized in following table.*

$d_{(n)}$  = Capital Cost escalation factor for year (n) of Control Period

$SI_{(n-1)}$  = Average WPI Steel Index prevalent for calendar year (n-1) of the Control Period

$SI_{(0)}$  = Average WPI Steel Index prevalent for calendar year (0) at the beginning of the Control Period

$EI_{(n-1)}$  = Average WPI Electrical Machinery Index prevalent for calendar year (n-1) of the Control Period

$EI_{(0)}$  = Average WPI Electrical Machinery Index prevalent for calendar year (0) at the beginning of the Control Period

a = Constant to be determined by Commission from time to time,  
(for weightage to Steel Index)

b = Constant to be determined by Commission from time to time,  
(for weightage to Electrical Machinery Index)

$F_1$  = Factor for Land and Civil Works

$F_2$  = Factor for Erection and Commissioning

$F_3$  = Factor for IDC and Financing Cost

The default values of the factors for various RE technologies as stipulated under the said RE Regulations, is summarized in the table below,

Parameters	Wind Energy	Small Hydro Projects	Biomass based Rankine cycle Power plant, Non-Fossil Fuel Based Cogeneration Biomass Gasifier and Biogas based projects
<b>a</b>	0.6	0.6	0.7
<b>b</b>	0.4	0.4	0.3
<b>F1</b>	0.08	0.16	0.10
<b>F2</b>	0.07	0.10	0.09
<b>F3</b>	0.10	0.14	0.14

The Commission has relied on the following sources for relevant information on various indices:

- Source for WPI (electrical & machinery and iron and steel), WPI ( all commodities), WPI (Price of HSD): Office of Economic Advisor, Ministry of Commerce & Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))
- Source for IRC (Average Annual Inflation rate for indexed energy charge component in case of captive coal mine source): CERC ([www.cercind.gov.in](http://www.cercind.gov.in))

Technology specific capital cost of RE projects is discussed here in under:

**Technology specific capital cost of RE projects is discussed herein under:**

**(A) Capital Cost of Wind Energy for FY 2014-15**

11. Regulation 24 provides that the capital cost for wind energy project shall include wind turbine generator including its auxiliaries, land cost, site development charges and other civil works, transportation charges, evacuation cost up to inter-connection point, financing charges and IDC.



The Commission under Regulation 24 (2) has specified the normative capital cost for wind energy projects as ₹ 575 Lakh/MW for FY 2012-13 which shall be linked to the indexation mechanism specified under Regulation 25 of the RE Tariff Regulations. In accordance with the above referred Regulation, the normative capital cost of the Wind energy Projects shall be ₹ 603.426 Lakh/MW for FY 2014-15. The detailed computations of the indexation mechanism and determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix-1** of this Order.

**(B) Capital cost of Small Hydro Projects for FY 2014-15**

12. 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 25 MW.

13. The Commission under Regulation 28 (1) has specified the normative capital cost for small hydro projects for FY 2012-13 as under:

<b>Region</b>	<b>Project Size</b>	<b>Capital Cost (FY 2012-13) (₹ Lakh/ MW)</b>
Himachal Pradesh, Uttarakhand and North Eastern States	Below 5 MW	770
	5 MW to 25 MW	700
Other States	Below 5 MW	600
	5 MW to 25 MW	550

14. In line with the indexation mechanism, specified in Regulation 29 of the RE Tariff Regulations, the normative capital cost for FY 2014-15 for Small Hydro Projects shall be as under,

<b>Region</b>	<b>Project Size</b>	<b>Capital Cost (FY 2014-15) (₹ Lakh/ MW)</b>
Himachal Pradesh, Uttarakhand and North Eastern States	Below 5 MW	808.067
	5 MW to 25 MW	734.606
Other States	Below 5 MW	629.662
	5 MW to 25 MW	577.191

The detailed computations of the indexation mechanism and the determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix-2** of this Order.

**(C) Capital Cost of Biomass based Power Projects for FY 2014-15**

15. Biomass power project for the purpose of these Regulations covers the projects using new plant and machinery based on Rankine cycle technology application using water cooled condenser and biomass fuel sources where use of fossil fuel is limited to the extent of 15% of total fuel consumption on annual basis.

16. The Commission under Regulation 34 has specified the normative capital cost for the biomass power projects based on Rankine cycle technology application using water cooled condenser as ₹ 445 Lakh/MW for FY 2012-13, which shall be linked to the indexation mechanism specified under Regulation 35 of the RE Tariff Regulations. In accordance to the above referred Regulation, the normative capital cost of biomass power projects based on Rankine cycle technology application using water cooled condenser shall be ₹ 466.649 Lakh/MW for FY 2014-15. The detailed calculations of the indexation mechanism and determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix -3** of this Order.

#### **(D) Capital Cost of Non-fossil fuel based Cogeneration Projects for FY 2014-15**

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, a project to qualify as the non-fossil based co-generation project 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. The Commission under Regulation 47 has specified the normative capital cost for the Non-Fossil Fuel Based Cogeneration Projects as ₹ 420 Lakh/MW for FY 2012-13 which shall be linked to the indexation mechanism specified under Regulation 48 of the RE Tariff Regulations. In accordance to the above referred Regulation, the normative capital cost of Non-Fossil Fuel based Cogeneration power projects shall be ₹ 440.433 Lakh/MW for FY 2014-15. The detailed computations of the indexation mechanism and determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix-4** of this Order.

#### **(E) Capital Cost of Solar PV based Power Projects for FY 2014-15**

19. Solar Photo Voltaic (PV) power projects which directly convert solar energy into electricity using the crystalline silicon or thin film technology or any other technology as approved by the Ministry of New and Renewable Energy and are connected to the grid, qualify for the purpose of tariff determination under the RE Tariff Regulations.
20. The Commission under Regulation 57 has specified the normative capital cost for the Solar PV power projects as ₹ 1000 Lakh/MW for the FY 2012-13.

21. The Commission vides its *suo-motu* Order (Petition No. 242/SM/2012) dated 28<sup>th</sup> February, 2013, determined the normative capital cost for the Solar PV power projects as ₹ 800.00 Lakh/MW for the FY 2013-14.
22. The Commission vides its *suo-motu* Order (Petition No. SM/353/2014) dated 7<sup>th</sup> January, 2014 proposed to consider the normative capital cost for the Solar PV power projects as ₹ - 612 Lakh/MW for the FY 2014-15.

**(F) Capital Cost of Solar Thermal based Power Projects for FY 2014-15**

23. In order to qualify for tariff determination under the RE Tariff Regulations, Solar Thermal Power Project shall be based on concentrated solar power technologies with line focusing or point focusing as may be approved by the Ministry of New and Renewable Energy and which uses direct sunlight to generate sufficient heat to operate a conventional power cycle to generate electricity.
24. The Commission under Regulation 61 has specified the normative capital cost for the Solar Thermal power projects as ₹ 1300 Lakh/MW for the FY 2012-13.
25. The Commission vides its *suo-motu* Order (Petition No. 242/SM/2012) dated 28<sup>th</sup> February, 2013, determined the normative capital cost for the Solar Thermal power projects as ₹ 1200.00 Lakh/MW for the FY 2013-14.
26. The Commission vides its *suo-motu* Order (Petition No. SM/353/2014) dated 7<sup>th</sup> January, 2014 proposed to consider the normative capital cost for the Solar Thermal power projects as ₹ 1200 Lakh/MW for the FY 2014-15.

### **(G) Capital Cost of Biomass Gasifier Power Projects for FY 2014-15**

27. The Commission under Regulation 66 has specified the normative capital cost for the Biomass Gasifier power projects based on Rankine cycle shall be ₹ 550.00 Lakh/MW for the FY 2012-13 and after taking into account of capital subsidy of ₹ 150.00 Lakh/MW, net project cost shall be ₹ 400.00 Lakh/MW for the FY 2012-13 which shall be linked to the indexation mechanism specified under Regulation 67 of the RE Tariff Regulations. In accordance to the above referred Regulation, the normative capital cost of Biomass gasifier power projects shall be ₹ 576.758 Lakh/MW for FY 2014-15. After taking into account of capital subsidy of ₹ 150.00 Lakh/MW, net project cost shall be ₹ 426.758 Lakh/MW for the FY 2014-15. The detailed computations of the indexation mechanism and determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix-5** of this Order.

### **(H) Capital Cost of Biogas based Power Projects for FY 2014-15**

28. In order to qualify for tariff determination under the RE Tariff Regulations, grid connected biogas based power projects that uses 100% Biogas fired engine, coupled with Biogas technology for co-digesting agriculture residues, manure and other bio waste as may be approved by the Ministry of New and Renewable Energy.

29. The Commission under Regulation 76 has specified the normative capital cost for the Biogas based power projects shall be ₹ 1100.00 Lakh/MW for the FY 2012-13 and after taking into account of capital subsidy of ₹ 300.00 Lakh/MW, net project cost shall be ₹ 800.00Lakh/MW for the FY 2012-13 which shall be linked to the indexation mechanism specified under Regulation 77 of the RE Tariff Regulations. In accordance to the above referred Regulation, the normative capital cost of Biogas based power projects shall be ₹ 1153.515 Lakh/MW for FY 2014-15. After taking into account of capital subsidy of ₹ 300.00 Lakh/MW, net project cost shall be ₹ 853.515 Lakh/MW for the FY 2014-15. The detailed computations of the indexation mechanism and determination of the capital cost for FY 2014-15 thereof, has been enclosed as **Appendix-6** of this Order.

30. The capital cost for the second year (i.e. FY 2014-15) of the control period in respect of the renewable energy power generating stations is summarized as under:

<b>Renewable Energy Projects</b>	<b>Capital Cost Norm for FY 2014-15 (₹ Lakh/MW)</b>
(1) Wind Energy Projects	603.426
(2) Small Hydro Projects	
(a) Himachal Pradesh, Uttarakhand and North Eastern States (less than 5 MW)	808.067
(b) Himachal Pradesh, Uttarakhand and North Eastern States (5MW to 25 MW)	734.606
(c) Other States (below 5 MW)	629.662
(d) Other States ( 5MW to 25 MW)	577.191
(3) Biomass Power Projects	466.649
(4) Non-fossil fuel based co-generation Power Projects	440.433
(5) Solar PV Power Projects	612.000
(6) Solar Thermal Power Projects	1200.00
(7) Biomass Gasifier Power Projects	426.758
(8) Biogas Power Projects	853.515

#### **DEBT-EQUITY RATIO**

31. Sub-Regulation (1) of Regulation 13 of the RE Tariff Regulations provides that the debt-equity ratio of 70:30 is to be considered for determination of generic tariff based on *suo-motu* petition.

32. 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 under:

<b>Renewable Energy Projects</b>	<b>Debt (₹ Lakh)</b>	<b>Equity (₹ Lakh)</b>
<b>(1) Wind Energy (for all zones)</b>	422.398	181.026
<b>(2) Small Hydro</b>		
(a) Himachal Pradesh, Uttarakhand and North Eastern States (below 5 MW)	565.647	242.420
(b) Himachal Pradesh, Uttarakhand and North Eastern States (5 MW to 25 MW)	514.224	220.382
(c) Other States (below 5 MW)	440.763	188.899
(d) Other States ( 5MW to 25 MW)	404.034	173.157
<b>(3) Biomass</b>	326.654	139.995
<b>(4) Non-fossil fuel co-generation</b>	308.303	132.130
<b>(5) Solar PV</b>	428.400	183.600
<b>(6) Solar Thermal</b>	840.000	360.000
<b>(7) Biomass Gasifier based Power Projects</b>	298.731	128027
<b>(8) Biogas based Power Projects</b>	597.461	256.055

### **RETURN ON EQUITY**

33. Sub-Regulation (1) of Regulation 16 of the RE Tariff Regulations provides that the value base for the equity shall be 30% of the capital cost for generic tariff determination. Sub-Regulation (2) of the said Regulation stipulates the normative return on equity (ROE) as under:

- (a) 20% per annum for the first 10 years, and
- (b) 24% per annum from the 11<sup>th</sup> year onwards.

### **INTEREST ON LOAN**

34. Sub-Regulation (1) of Regulation 14 of the RE Regulations provides that the loan tenure of 12 years is to be considered for the purpose of determination of tariff for RE projects. Sub-Regulation (2) of the said Regulation provides for computation of the rate of interest on loan as under:

*“(a) The loans arrived at in the manner indicated in the Regulation 13 shall be considered as gross normative loan for calculation for interest on loan. The normative loan outstanding as on April 1st of every year shall be worked out by deducting the cumulative repayment up to March 31st of previous year from the gross normative loan.*

*(b) For the purpose of computation of tariff, the normative interest rate shall be considered as average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 300 basis points.*

*(c) Notwithstanding any moratorium period availed by the generating company, 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”.*

35. The weighted average State Bank of India (SBI) Base rate prevalent during the first six months has been considered for the determination of tariff, as shown in the table below:

<b>Period from</b>	<b>Period to</b>	<b>Base rate</b>
4/2/2013	Till date	09.70%
<b>Average Base rate for first six months of FY 13-14</b>		<b>09.70%</b>

Source: State Bank of India ([www.statebankofindia.com](http://www.statebankofindia.com))

36. In terms of the above, the computations of interest on loan carried out for determination of tariff in respect of the RE projects treating the value base of loan as 70% of the capital cost and the weighted average of Base rate prevalent during the first six months of the (i.e. 9.70%) plus 300 basis points (equivalent to interest rate of 12.70%).



## DEPRECIATION

37. Regulation 15 of the RE Tariff Regulations provides for computation of depreciation in the following manner:

*"(1) The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission. The Salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the Capital Cost of the asset.*

*(2) Depreciation per annum shall be based on 'Differential Depreciation Approach' over loan period beyond loan tenure over useful life computed on 'Straight Line Method'. The depreciation rate for the first 12 years of the Tariff Period shall be 5.83% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 13th year onwards.*

*(3) Depreciation shall be chargeable from the first year of commercial operation. Provided that in case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis".*

38. In accordance with the above, the rate of depreciation for the first 12 years has been considered as 5.83% and the rate of depreciation from the 13<sup>th</sup> year onwards has been spread over the balance useful life of the RE project as under:

Details	Wind Energy	Small Hydro	Biomass	Non-fossil fuel co-generation	Solar PV	Solar Thermal	Biomass Gasifier	Biogas
Useful Life (in years)	25	35	20	20	25	25	20	20
Rate of depreciation for 12 years (%)	5.83	5.83	5.83	5.83	5.83	5.83	5.83	5.83
Rate of depreciation after first 12 years (%)	1.54	0.87	2.50	2.50	1.54	1.54	2.50	2.50

## INTEREST ON WORKING CAPITAL

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

*“(1) The Working Capital requirement in respect of wind energy projects, Small Hydro Power, Solar PV and Solar thermal power projects shall be computed in accordance with the following:*

*Wind Energy / Small Hydro Power /Solar PV / Solar thermal*

- a) Operation & Maintenance expenses for one month;*
- b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;*
- c) Maintenance spare @ 15% of operation and maintenance expenses*

*(2) The Working Capital requirement in respect of biomass power projects and non-fossil fuel based co-generation projects shall be computed in accordance with the following clause:*

*Biomass(Rankine Cycle Technology), Biomass Gasifier, Biogas Power and Non-fossil fuel Co-generation*

- a) Fuel costs for four months equivalent to normative PLF;*
- b) Operation & Maintenance expense for one month;*
- c) Receivables equivalent to 2 (Two) months of fixed and variable charges for sale of electricity calculated on the target PLF;*
- d) Maintenance spare @ 15% of operation and maintenance expenses*

*(3) Interest on Working Capital shall be at interest rate equivalent to the average State Bank of India Base Rate prevalent during the first six months of the previous year plus 350 basis points”.*

40. Receivables equivalent to two months of actual fixed cost and variable cost, (as applicable for biomass power and non-fossil fuel based co-generation) have been considered. As mentioned in the Para No. 34, interest rate considered as weighted average of State Bank of India Base Rate prevalent during the first six months of the previous year plus 350 basis

points (equivalent to interest rate of 13.20%). The interest on working capital has been worked out as specified below for determination of tariff of the RE projects:

Details	Wind Energy	Small Hydro	Biomass, Biomass Gasifier and Biogas	Non-fossil fuel co-generation	Solar PV	Solar Thermal
<b>(A) For Fixed charges</b>						
(i) O&M expenses (month)	1	1	1	1	1	1
(ii) Maintenance spares (%) of O&M expenses	15	15	15	15	15	15
(iii) Receivables (months)	2	2	2	2	2	2
<b>(B) For Variable Charges</b>						
Biomass/Bagasse stock (months)	-	-	4	4	-	-
<b>(C) Interest On Working Capital (%)</b>	13.20%	13.20%	13.20%	13.20%	13.20%	13.20%

Source for SBI Base Rate: State Bank of India ([www.statebankofindia.com](http://www.statebankofindia.com))

## OPERATION AND MAINTENANCE EXPENSES

41. Regulation 18 of the RE Tariff Regulations provides for Operation and Maintenance Expenses (O&M expenses) in respect of RE projects as under:

### **“Operation and Maintenance Expenses**

- (1) *‘Operation and Maintenance or O&M expenses’ shall comprise repair and maintenance (R&M), establishment including employee expenses and administrative & general expenses.*
- (2) *Operation and maintenance expenses shall be determined for the Tariff Period based on normative O&M expenses specified by the Commission subsequently in these Regulations for the first Year of Control Period.*

*(3) Normative O&M expenses allowed during first year of the Control Period (i.e. FY 2012-13) under these Regulations shall be escalated at the rate of 5.72% per annum over the Tariff Period”.*

42. The normative O&M expenses for various RE technologies specified under the relevant provisions of the RE Tariff Regulations are as under:

**(a) Wind Energy:** Regulation 27 of RE Tariff Regulations provides that the normative O&M expenses for the first year of the control period (i.e. 2012-13) as ₹ 9 lakh per MW and shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, the Commission has considered O&M cost norm for wind energy as ₹ 10.05 Lakh/MW for FY 2014-15.

**(b) Small Hydro:** Regulation 32 of RE Regulations provided for the normative O& M expenses for small hydro projects for the year 2012-13 which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. The table below presents the normative O&M Expenses considered by the Commission for small hydro power for FY 2012-13;

<b>Region</b>	<b>Project Size</b>	<b>O&amp;M expenses (₹ Lakh/MW)</b>
Himachal Pradesh, Uttarakhand and North Eastern States	Below 5 MW	25
	5 MW to 25 MW	18
Other States	Below 5 MW	20
	5 MW to 25 MW	14

Accordingly, the table below presents the normative O&M Expenses considered by the Commission for small hydro power for FY 2014-15,

Region	Project Size	O&M expenses (₹ Lakh/MW)
Himachal Pradesh, Uttarakhand and North Eastern States	Below 5 MW	27.94
	5 MW to 25 MW	20.12
Other States	Below 5 MW	22.35
	5 MW to 25 MW	15.65

**(c) Biomass:** Regulation 39 of RE Tariff Regulations provides that the normative O& M expenses for biomass based projects for the year 2012-13 shall be ₹ 24 Lakh per MW and which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, the Commission has considered O&M cost norm for biomass power as ₹ 26.82 Lakh/MW for FY 2014-15.

**(d) Non-fossil fuel co-generation:** As per Regulation 55 of RE Tariff Regulations, the normative O&M Expenses for non-fossil fuel co-generation projects for the year 2012-13 has been specified as ₹ 16 Lakh per MW which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, the Commission has considered O&M cost norm for non-fossil fuel based co-generation as ₹ 17.89 Lakh/MW for FY 2014-15.

**(e) Solar PV:** Regulation 59 of RE Tariff Regulations provides that the normative O&M expenses for solar PV projects for the year 2012-13 shall be ₹ 11 Lakh per MW which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, O&M expense norm for solar PV power project as ₹ 12.30 Lakh/MW for FY 2014-15 has been considered.

**(f) Solar Thermal:** Regulation 63 of the RE Tariff Regulations specified the normative O&M expenses for solar thermal power projects shall be ₹ 15 Lakh/MW for the first year of operation, which shall be escalated at the rate of 5.72% per annum over the

tariff period for determination of the levellised tariff. Accordingly, O&M expense norm for solar thermal power project as ₹ 16.77 Lakh/MW for FY 2014-15, has been considered.

**(g) Biomass Gasifier:** Regulation 71 of the RE Tariff Regulations specified the normative O&M expenses for solar thermal power projects shall be ₹ 40 Lakh/MW for the first year of operation, which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, the Commission has considered O&M cost norm for biomass gasifier based power plant as ₹ 44.71 Lakh/MW for FY 2014-15.

**(h) Biogas:** Regulation 80 of the RE Tariff Regulations specified the normative O&M expenses for solar thermal power projects shall be ₹ 40 Lakh/MW for the first year of operation, which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levellised tariff. Accordingly, the Commission has considered O&M cost norm for biogas based power plant as ₹44.71 Lakh/MW for FY 2014-15.

43. The normative O&M expenses have been worked out as specified above for determination of tariff for the renewable energy generating stations.

#### **CAPACITY UTILISATION FACTOR**

44. Regulations 26, 30, 58 and 62 of the RE Tariff Regulations specify the norms for Capacity Utilization Factor (CUF)/Plant Load Factor (PLF) in respect of the Wind Energy, Small Hydro, Solar PV and Solar Thermal based power generating stations as per the details given in the table below which has been considered for determination of tariff.

<b>Renewable Energy Projects</b>	<b>CUF</b>
(A) Wind Energy Annual Mean Wind Power Density (W/m <sup>2</sup> )	
Wind zone - 1 (Upto 200)	20 %
Wind zone - 2 (201 - 250)	22 %
Wind zone - 3 (251 - 300)	25 %
Wind zone - 4 (301 - 400)	30 %
Wind zone - 5 (Above 400)	32 %
(B) Small Hydro	
(i) Himachal Pradesh, Uttarakhand and North Eastern States	45 %
(ii) Other States	30 %
(C) Solar PV	19 %
(D) Solar Thermal	23 %

#### **PLANT LOAD FACTOR (PLF)**

45. Regulations 36, 68 and 78 of the RE Tariff Regulations specify the plant load factor for Biomass, Biomass Gasifier and Biogas based renewable energy generating stations as given in the table below which has been considered for determination of fixed charges component of tariff.

<b>Renewable Energy Projects</b>	<b>PLF</b>
(A) Biomass	
(a) During stabilization (6 months)	60 %
(b) During remaining period of the first year (after stabilization)	70 %
(c) Second year onwards	80 %
(B) Biomass Gasifier	85 %
(C) Biogas	90 %

46. Regulation 49 of the RE Tariff Regulations stipulates the plant load factor for Non-fossil Fuel based Co-generation projects as under, computed on the basis of plant availability for number of operating days considering the operations during crushing season and off-season and load factor of 92%. The number of operating days for different States as specified in the Regulation 49(2) is as under:

<b>States</b>	<b>Operating days</b>	<b>PLF</b>
Uttar Pradesh and Andhra Pradesh	120 days (crushing)+ 60 days (off-season) = 180 days	45 %
Tamil Nadu and Maharashtra	180 days (crushing)+ 60 days (off-season) = 240 days	60 %
Other States	150 days (crushing) + 60 days (off-season) = 210 days	53 %

#### **AUXILIARY POWER CONSUMPTION**

47. Regulations 31, 37, 50, 64, 69 and 79 of the RE Tariff Regulations stipulate the auxiliary power consumption factor as under which has been considered for determination of tariff of the RE projects :

<b>Renewable Energy Projects</b>	<b>Auxiliary Consumption Factor</b>
Small Hydro	1 %
Biomass	10 %
Non-fossil fuel co-generation	8.5 %
Solar Thermal	10 %
Biomass Gasifier	10 %
Biogas	12 %



## STATION HEAT RATE

48. The Station Heat Rates (SHR) specified under Regulations 38 and 51 of the RE Tariff Regulations for biomass and non-fossil fuel based co-generation projects are as under:

Renewable Energy Projects	SHR (kCal / kWh)
Biomass	4000
Non-fossil fuel co-generation (for power component)	3600

## FUEL

### (a) Fuel Mix

49. Sub-Regulation (1) of Regulation 40 of the RE Tariff Regulations stipulates that the Biomass based power generating stations are to be designed in a way that it uses different types of non-fossil fuels available within the vicinity of biomass power project such as crop residues, agro-industrial residues, forest residues etc. and other biomass fuels as may be approved by the Ministry of Non-Renewable Energy (MNRE). Sub-Regulation (2) of the said Regulations stipulates that the biomass power generating companies are to ensure fuel management plan to ensure adequate availability of fuel to meet the respective project requirements.

50. Regulation 70 of the RE Tariff Regulations stipulates that the normative specific fuel consumption shall be 1.25 kg per kWh for Biomass Gasifier based power generating stations.

51. Regulation 81 of the RE Tariff Regulations stipulates that the normative specific fuel consumption shall be 3 kg of substrate mix per kWh for Biogas based power generating stations.

**(b) Use of fossil fuel**

52. As per Regulation 41 of the RE Tariff Regulations, the use of fossil fuel is to be limited to the extent of 15% of total fuel consumption on annual basis and Regulation 42 of the RE Tariff Regulations provides the mechanism for monitoring the use of fossil fuel is as under:

*“(1) The Project developer shall furnish to the State Nodal Agency, a monthly fuel usage statement and monthly fuel procurement statement duly certified by Chartered Accountant to the beneficiary (with a copy to appropriate agency appointed by the Commission for the purpose of monitoring the fossil and non-fossil fuel consumption) for each month, along with the monthly energy bill. The statement shall cover details such as -*

- a) Quantity of fuel (in tonne) for each fuel type (biomass fuels and fossil fuels) consumed and procured during the month for power generation purposes,*
- b) Cumulative quantity (in tonne) of each fuel type consumed and procured till the end of that month during the year,*
- c) Actual (gross and net) energy generation (denominated in units) during the month,*
- d) Cumulative actual (gross and net) energy generation (denominated in units) until the end of that month during the year,*
- e) Opening fuel stock quantity (in tonne),*
- f) Receipt of fuel quantity (in tonne) at the power plant site and*
- g) Closing fuel stock quantity (in tonne) for each fuel type (biomass fuels and fossil fuels) available at the power plant site.*

*(2) Non-compliance with the condition of fossil fuel usage by the project developer, during any financial year, shall result in withdrawal of*

*applicability of tariff as per these Regulations for such biomass based power project”.*

**(c) Calorific value**

53. Regulation 43 of the RE Tariff Regulations provides the calorific value of biomass fuel used for determination of tariff shall be at 3300 kCal/kg.

54. Regulation 52 of the of the RE Tariff Regulations provides the gross calorific value for bagasse to be considered in case of non-fossil fuel co-generation projects is 2250 kCal/kg and for the use of biomass fuels other than bagasse, the calorific value as specified above shall be applicable.

**(d) Fuel cost**

55. The Commission, in terms of Regulation 44 of the RE Tariff Regulations, has specified the biomass fuel price applicable during the period 2012-13 and has specified fuel price indexation mechanism, in case developer wishes to opt, for the remaining years of the control period. The data for Pd and WPI, as per regulations, latest figures for April, 2013 and April, 2012 corresponding to  $n^{\text{th}}$  and  $(n-1)^{\text{th}}$  year has been considered while calculating the fuel price indexation for biomass and also non-fossil fuel based co-generation power projects. The detailed computations of the fuel price indexation mechanism and the determination of the biomass fuel prices for FY 2014-15 thereof, has been enclosed as **Appendix-7** to this order. Accordingly, the biomass fuel price applicable for FY 2014-15 is as under:

State	Biomass price (₹/tonne)
Andhra Pradesh	2747.59
Haryana	3127.40
Maharashtra	3198.61
Punjab	3271.01
Rajasthan	2729.79
Tamil Nadu	2702.49
Uttar Pradesh	2795.07
Other States	2938.69

56. The Commission, in terms of Regulation 53 of the RE Tariff Regulations, has specified the price of bagasse applicable during the period 2012-13 and has specified fuel price indexation mechanism, in case developer wishes to opt, for the remaining years of the control period. The detailed computations of the fuel price indexation mechanism and the determination of the bagasse fuel prices for FY 2014-15 thereof, has been enclosed as **Appendix-8** of this Order. The price of bagasse (for non-fossil fuel based co-generation projects) applicable for FY 2014-15 shall be as in the table below;

State	Bagasse Price (₹/tonne)
Andhra Pradesh	1551.24
Haryana	2206.38
Maharashtra	2174.34
Punjab	1941.72
Tamil Nadu	1671.11
Uttar Pradesh	1730.46
Other States	1878.81

57. The Commission, in terms of Regulation 73 of the RE Tariff Regulations, has specified the biomass fuel price during first year of the Control Period (i.e. FY 2012-13) as per Regulation 44 and has specified fuel price indexation mechanism for the Biomass Gasifier project developer. Accordingly, the biomass fuel price for the Biomass gasifier based power project

applicable for FY 2014-15 shall be the same as for the biomass based power project (Rankine cycle) as mentioned above. The detailed computations of the fuel price indexation mechanism and the determination of the biomass fuel prices for FY 2014-15 thereof, has been enclosed as **Appendix-9** of this Order.

58. The Commission, in terms of Regulation 82 of the RE Tariff Regulations, has specified the feed stock price during first year of the Control Period (i.e. FY 2012-13) at ₹ 990/MT(net of any cost recovery from digester effluent) and has specified fuel price indexation mechanism for the Biogas project developer. The detailed computations of the fuel price indexation mechanism and the determination of the bagasse fuel prices for FY 2014-15 thereof, has been enclosed as **Appendix-10** of this Order. The price of fuel applicable for the biogas based power plant for FY 2014-15 shall be at ₹ 1175.00/MT(net of any cost recovery from digester effluent).

59. In case of Biomass Power Projects, non-fossil fuel based co-generation projects, Biomass Gasifier based power Projects and Biogas based power projects, variable component of tariff is calculated based on the fuel cost for FY 2014-15. This variable component will change each year based on whether a Renewable Energy Power Project developer opts for fuel price indexation or escalation factor of 5%. Hence, while calculating the total applicable tariff for Biomass Power Projects, non-fossil fuel based co-generation projects, Biomass Gasifier based power Projects and Biogas based power projects, levellisation of only fixed component is considered and the variable component for the first year of operation (i.e. 2014-15) is specified.

#### **Subsidy or incentive by the Central / State Government**

60. Regulation 22 of the RE Tariff Regulations provides as under:

*“The Commission shall take into consideration any incentive or subsidy offered by the Central or State Government, including accelerated depreciation benefit if*

*availed by the generating company, for the renewable energy power plants 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:*

*i) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate as per relevant provisions under Income Tax Act and corporate income tax rate.*

*ii) Capitalization of RE projects during second half of the fiscal year. Per unit benefit shall be derived on levelled basis at discount factor equivalent to Post Tax weighted average cost of capital”.*

61. In terms of the above regulation, for the projects availing the benefit of accelerated depreciation as per applicable Income tax rate @ 32.445% (30% IT rate+ 5% surcharge +3% Education cess) 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 rate i.e. 80% of the written down value method (except for Wind energy generator, as per Income-tax (Fourth Amendment Rules), 2012, depreciation is now restricted to 15% on wind mills installed after 31-3-2012), Notification No. 15/2012 [F.No.149/21/2010-SO(TPL)] S.O.694(E), dated 30-3-2012). 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.

62. Depreciation for the first year has been calculated at the rate of 50% of accelerated depreciation 80% and 50% of additional depreciation 20% (as project is capitalized during the second half of the financial year as per proviso (ii) to Regulation 22). Income tax benefits of accelerated depreciation and additional depreciation, has been worked out as per normal

tax rate on the net depreciation benefit. Per unit levellised accelerated depreciation benefit has been computed considering the post tax weighted average cost of capital as discount factor.

63. In the light of the discussion made in the preceding paragraphs, the generic tariffs of the following RE projects for the financial year 2014-15 have been determined as under:

**Generic Tariff for RE Technologies for FY 2014-15**

Particular	Levellised Total Tariff (FY 2014-15)	Benefit of Accelerated Depreciation (if availed)	Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
	(₹ / kWh)	(₹/kWh)	(₹/kWh)
<b>Wind Energy</b>			
Wind Zone -1 (CUF 20%)	6.34	0.33	6.01
Wind Zone -2 (CUF 22%)	5.77	0.30	5.47
Wind Zone -3 (CUF 25%)	5.08	0.27	4.81
Wind Zone -4 (CUF 30%)	4.23	0.22	4.01
Wind Zone -5 (CUF 32%)	3.97	0.21	3.76
<b>Small Hydro Power Project</b>			
HP, Uttarakhand and NE States (Below 5MW)	4.46	0.35	4.11
HP, Uttarakhand and NE States (5MW to 25 MW)	3.80	0.32	3.48
Other States (Below 5 MW)	5.25	0.41	4.84
Other States (5 MW to 25 MW)	4.47	0.38	4.09

State	Levelling Fixed Cost	Variable Cost (FY 2014-15)	Applicable Tariff Rate (FY 2014-15)	Benefit of Accelerated Depreciation (if availed)	Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
	(₹/kWh)	(₹/kWh)	(₹/kWh)	(₹/kWh)	(₹/kWh)
<b>Biomass Power Project</b>					
Andhra Pradesh	2.27	3.70	5.97	0.14	5.83
Haryana	2.32	4.21	6.53	0.14	6.39
Maharashtra	2.33	4.31	6.64	0.14	6.50
Punjab	2.33	4.41	6.74	0.14	6.60
Rajasthan	2.27	3.68	5.95	0.14	5.80
Tamil Nadu	2.26	3.64	5.90	0.14	5.76
Uttar Pradesh	2.27	3.76	6.03	0.14	5.89
Others	2.29	3.96	6.25	0.14	6.11
<b>Bagasse Based Co-generation Project</b>					
Andhra Pradesh	3.01	2.71	5.72	0.23	5.49
Haryana	2.71	3.86	6.57	0.20	6.37
Maharashtra	2.43	3.80	6.23	0.18	6.05
Punjab	2.66	3.40	6.06	0.20	5.86
Tamil Nadu	2.34	2.92	5.26	0.18	5.08
Uttar Pradesh	3.04	3.03	6.07	0.23	5.84
Others	2.65	3.29	5.94	0.20	5.74



<b>Solar PV and Solar Thermal</b>			
<b>Particular</b>	<b>Levellised Total Tariff (FY 2014-15)</b>	<b>Benefit of Accelerated Depreciation (if availed)</b>	<b>Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)</b>
	<b>(₹ / kWh)</b>	<b>(₹/kWh)</b>	<b>(₹/kWh)</b>
Solar PV	6.99	0.66	6.33
Solar Thermal	11.89	1.19	10.70

<b>State</b>	<b>Levellised Fixed Cost</b>	<b>Variable Cost (FY 2014-15)</b>	<b>Applicable Tariff Rate (FY 2014-15)</b>	<b>Benefit of Accelerated Depreciation (if availed)</b>	<b>Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)</b>
	<b>(₹/kWh)</b>	<b>(₹/kWh)</b>	<b>(₹/kWh)</b>	<b>(₹/kWh)</b>	<b>(₹/kWh)</b>
<b>Biomass Gasifier Power Project</b>					
Andhra Pradesh	2.44	3.82	6.26	0.12	6.14
Haryana	2.49	4.34	6.83	0.12	6.71
Maharashtra	2.50	4.44	6.94	0.12	6.82
Punjab	2.51	4.54	7.05	0.12	6.93
Rajasthan	2.44	3.79	6.23	0.12	6.11
Tamil Nadu	2.43	3.75	6.18	0.12	6.06
Uttar Pradesh	2.45	3.88	6.33	0.12	6.21
Others	2.46	4.08	6.55	0.12	6.43
<b>Biogas based Generation</b>					
Biogas	3.38	4.01	7.39	0.24	7.15

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

<b>S No</b>	<b>Renewable Energy Projects</b>	<b>Annexure</b>
<b>A</b>	<b>Wind Power Projects</b>	
	Wind Zone-I	Annexure 1A
	Wind Zone-II	Annexure 1B
	Wind Zone III	Annexure 1C
	Wind Zone IV	Annexure 1D
	Wind Zone V	Annexure 1E
<b>B</b>	<b>Small Hydro Power Projects</b>	
	Projects Less than 5 MW for HP, Uttarakhand and NE States	Annexure 2A
	Projects between 5 MW and 25 MW for HP, Uttarakhand and NE States	Annexure 2B
	Projects less than 5 MW for other States	Annexure 2C
	Projects between 5 MW and 25 MW for other States	Annexure 2D
<b>C</b>	<b>Biomass Power Projects</b>	
	Andhra Pradesh	Annexure 3A
	Haryana	Annexure 3B
	Maharashtra	Annexure 3C
	Punjab	Annexure 3D
	Rajasthan	Annexure 3E
	Uttar Pradesh	Annexure 3F
	Tamil Nadu	Annexure 3G
	Others	Annexure 3H

<b>S No</b>	<b>Renewable Energy Projects</b>	<b>Annexure</b>
<b>D</b>	<b>Non-Fossil Fuel Based Cogeneration</b>	
	Andhra Pradesh	Annexure 4A
	Haryana	Annexure 4B
	Maharashtra	Annexure 4C
	Punjab	Annexure 4D
	Uttar Pradesh	Annexure 4E
	Tamil Nadu	Annexure 4F
	Others	Annexure 4G
<b>E</b>	<b>Solar Projects</b>	
	Solar PV Projects	Annexure 5A
	Solar Thermal Projects	Annexure 6A
<b>F</b>	<b>Biomass Gasifier Power Projects</b>	
	Andhra Pradesh	Annexure 7A
	Haryana	Annexure 7B
	Maharashtra	Annexure 7C
	Punjab	Annexure 7D
	Rajasthan	Annexure 7E
	Uttar Pradesh	Annexure 7F
	Tamil Nadu	Annexure 7G
	Others	Annexure 7H
<b>G</b>	<b>Biogas based Power Projects</b>	Annexure 8A

## Capital cost of Indexation for Wind Power Projects (FY 2014-15)

<p>Indexation Formulation</p> $CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$ $d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)})-1) + b * (EI_{(n-1)}/EI_{(0)})-1) / (a+b)$ $P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$
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Variable	Description	Value
a	Weightage for Steel Index	0.60
b	Weightage for Electrical Machinery Index	0.40
F1	Factor for Land and Civil Work	0.08
F2	Factor for Erection and Commissioning	0.07
F3	Factor for IDC and Financing	0.10

Month/Year	Electrical Machinery		Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	Value
$CC_{(0)}$ (₹ L/MW)	Capital Cost for the Base Year	575.000
$P\&M_{(0)}$ (₹ L/MW)	Plant & Machinery Cost for the Base Year	460.000
$d_{(n)}$	Capital Cost escalation Factor	4.944%
$P\&M_{(n)}$ (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	482.741
$CC_{(n)}$ (₹ L/MW)	Capital Cost for the nth Year (FY 2014-15)	603.426

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))

## Capital cost of Indexation for Small Hydro Power Projects (FY 2014-15)

## Indexation Formulation

$$CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$$

$$d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)})-1) + b * (EI_{(n-1)}/EI_{(0)})-1) / (a+b)$$

$$P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$$

Variable	Description	Value
a	Weightage for Steel Index	0.6
b	Weightage for Electrical Machinery Index	0.4
F1	Factor for Land and Civil Work	0.16
F2	Factor for Erection and Commissioning	0.1
F3	Factor for IDC and Financing	0.14

Month/Year	Electrical Machinery		Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	HP/Uttrakhand/ NE		Other States	
		SHP <5 MW	5MW-25 MW	SHP<5 MW	5MW-25 MW
CC <sub>(0)</sub> (₹ L/MW)	Capital Cost for the Base Year	770.000	700.000	600.000	550.000
P&M <sub>(0)</sub> (₹ L/MW)	Plant & Machinery Cost for the Base Year	550.000	500.000	428.571	392.857
d <sub>(n)</sub>	Capital Cost escalation Factor	4.944%	4.944%	4.944%	4.944%
P&M <sub>(n)</sub> (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	577.191	524.719	449.759	412.279
CC <sub>(n)</sub> (₹ L/MW)	Capital Cost for the nth Year (FY 2014-15)	808.067	734.606	629.662	577.191

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor,  
Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))

## Capital cost of Indexation for Biomass Power Projects (FY 2014-15)

## Indexation Formulation

$$CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$$

$$d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)}) - 1) + b * (EI_{(n-1)}/EI_{(0)}) - 1) / (a+b)$$

$$P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$$

Variable	Description	Value
a	Weightage for Steel Index	0.70
b	Weightage for Electrical Machinery Index	0.30
F1	Factor for Land and Civil Work	0.10
F2	Factor for Erection and Commissioning	0.09
F3	Factor for IDC and Financing	0.14

Month/Year	Electrical Machinery		Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	Value
CC <sub>(0)</sub> (₹ L/MW)	Capital Cost for the Base Year	445.000
P&M <sub>(0)</sub> (₹ L/MW)	Plant & Machinery Cost for the Base Year	334.586
d <sub>(n)</sub>	Capital Cost escalation Factor	4.865%
P&M <sub>(n)</sub> (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	350.864
CC <sub>(n)</sub> (₹ L/MW)	Capital Cost for the nth Year (FY2014-15)	466.649

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))

Capital cost of Indexation for Non-fossil fuel based Cogeneration Power Projects (FY 14-15)

<p>Indexation Formulation</p> $CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$ $d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)})-1) + b * (EI_{(n-1)}/EI_{(0)})-1) / (a+b)$ $P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$
---

Variable	Description	Value
a	Weightage for Steel Index	0.7
b	Weightage for Electrical Machinery Index	0.3
F1	Factor for Land and Civil Work	0.1
F2	Factor for Erection and Commissioning	0.09
F3	Factor for IDC and Financing	0.14

Month/Year	Electrical Machinery		Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	Value
CC <sub>(0)</sub> (₹ L/MW)	Capital Cost for the Base Year	420.000
P&M <sub>(0)</sub> (₹ L/MW)	Plant & Machinery Cost for the Base Year	315.789
d <sub>(n)</sub>	Capital Cost escalation Factor	4.865%
P&M <sub>(n)</sub> (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	331.153
CC <sub>(n)</sub> (₹ L/MW)	Capital Cost for the nth Year (FY2014-15)	440.433

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))

## Capital cost of Indexation for Biomass Gasifier Power Projects (FY 2014-15)

## Indexation Formulation

$$CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$$

$$d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)})-1) + b * (EI_{(n-1)}/EI_{(0)})-1) / (a+b)$$

$$P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$$

Variable	Description	Value
a	Weightage for Steel Index	0.7
b	Weightage for Electrical Machinery Index	0.3
F1	Factor for Land and Civil Work	0.1
F2	Factor for Erection and Commissioning	0.09
F3	Factor for IDC and Financing	0.14

Month/Year	Electrical & Machinery		Iron & Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	Value
CC <sub>(0)</sub> (₹ L/MW)	Capital Cost for the Base Year	550.000
P&M <sub>(0)</sub> (₹ L/MW)	Plant & Machinery Cost for the Base Year	413.534
d <sub>(n)</sub>	Capital Cost escalation Factor	4.865%
P&M <sub>(n)</sub> (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	433.652
CC <sub>(n)</sub> (₹ L/MW)	Capital Cost for the nth Year (FY2014-15)	576.758

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))



## Capital cost of Indexation for Biogas based Power Projects (FY 2014-15)

<p>Indexation Formulation</p> $CC_{(n)} = P\&M_{(n)} * [1 + F1 + F2 + F3]$ $d_{(n)} = (a * (SI_{(n-1)}/SI_{(0)})-1) + b * (EI_{(n-1)}/EI_{(0)})-1) / (a+b)$ $P\&M_{(n)} = P\&M_{(0)} * (1 + d_{(n)})$
---

Variable	Description	Value
A	Weightage for Steel Index	0.7
B	Weightage for Electrical Machinery Index	0.3
F1	Factor for Land and Civil Work	0.1
F2	Factor for Erection and Commissioning	0.09
F3	Factor for IDC and Financing	0.14

Month/Year	Electrical Machinery		Steel	
	2013	2011	2013	2011
January	133.900	125.100	126.200	118.600
February	133.800	125.100	126.200	113.000
March	134.100	126.400	126.200	113.000
April	134.500	127.200	126.200	113.000
May	135.500	127.600	126.200	113.000
June	135.600	128.000	126.200	119.600
July	135.600	128.700	126.200	126.200
August	135.700	129.200	126.200	126.200
September	136.300	130.900	126.200	126.200
October	136.700	130.600	126.200	126.200
November	137.000	130.800	126.200	126.200
December		131.000		126.200
Average	135.336	128.383	126.200	120.617

Parameters	Description	Value
CC <sub>(0)</sub> (₹ L/MW)	Capital Cost for the Base Year	1100.000
P&M <sub>(0)</sub> (₹ L/MW)	Plant & Machinery Cost for the Base Year	827.068
d <sub>(n)</sub>	Capital Cost escalation Factor	4.865%
P&M <sub>(n)</sub> (₹ L/MW)	Plant & Machinery Cost for the nth Year (FY 2014-15)	867.305
CC <sub>(n)</sub> (₹ L/MW)	Capital Cost for the nth Year (FY2014-15)	1153.515

Source of WPI (Steel and Electrical Machinery): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in))

**Biomass Fuel Price across States for FY 2014-15**

As per fuel price Index Mechanism outlined under Regulation 45 and the availability of required information

## Fuel Price indexation for Biomass Power Projects (FY2014-15)

## Indexation Formulation

$$P_{(n)} = P_{(n-1)} * \{a * (WPI_{(n)}) / WPI_{(n-1)} + b * (1 + IRC_{(n-1)}) + c * (Pd_{(n)}) / Pd_{(n-1)}\}$$

Parameter	Value
WPI n-1	<b>163.500</b>
WPI n	<b>171.300</b>
IRC n-1	<b>9.81%</b>
Pd n-1	<b>175.242</b>
Pd n	<b>209.636</b>
A	<b>0.20</b>
B	<b>0.60</b>
C	<b>0.20</b>

State	Biomass price (₹/MT) (2013-14)	Biomass price (₹/MT) (2014-15)
Andhra Pradesh	2480.55	2747.59
Haryana	2823.44	3127.40
Maharashtra	2887.73	3198.61
Punjab	2953.09	3271.01
Rajasthan	2464.48	2729.79
Tamil Nadu	2439.83	2702.49
Uttar Pradesh	2523.41	2795.07
Other States	2653.07	2938.69

Note:

1. The Calculation of WPI (n) and WPI (n-1) is based on the figures available on April 2013 and April 2012 respectively.
2. The Calculation of Pd (n) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2013 to November 2013.
3. The Calculation of Pd (n-1) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2012 to December 2012.
4. The Calculation of Pd (n) and Pd (n-1) are shown as under:

**WPI (Price of HSD)**

<b>Month</b>	<b>2013</b>	<b>2012</b>
Jan	198.800	167.800
Feb	202.700	167.800
Mar	201.700	167.800
Apr	202.300	167.800
May	203.400	167.800
Jun	207.000	167.800
Jul	212.000	167.800
Aug	215.400	168.600
Sep	219.800	182.800
Oct	220.500	192.300
Nov	222.400	192.300
Dec		192.300
Average	Pd (n) :209.636	Pd (n-1) : 175.242

Source of WPI and WPI (Price of HSD): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in)),

From	To	IRC	Days	Average IRC
01-04-2013	30-09-2013	9.82%	183	9.81%
01-10-2013	31-03-2014	9.80%	182	
			365	

Source of IRC: CERC ([www.cercind.gov.in](http://www.cercind.gov.in))

**bagasse Fuel Price across States for FY 2014-15**

As per fuel price Index Mechanism outlined under Regulation 54 and the availability of required information

**Fuel Price indexation for Bagasse Power Projects (FY2014-14)****Indexation Formulation**

$$P_{(n)} = P_{(n-1)} * \{a * (WPI_{(n)} / WPI_{(n-1)}) + b * (1 + IRC_{(n-1)}) + c * (Pd_{(n)} / Pd_{(n-1)})\}$$

<b>Parameter</b>	<b>Value</b>
WPI <sub>(n-1)</sub>	<b>163.500</b>
WPI <sub>(n)</sub>	<b>171.300</b>
IRC <sub>(n-1)</sub>	<b>9.81%</b>
Pd <sub>(n-1)</sub>	<b>175.242</b>
Pd <sub>(n)</sub>	<b>209.636</b>
A	<b>0.20</b>
B	<b>0.60</b>
C	<b>0.20</b>

<b>State</b>	<b>Bagasse price (₹/MT) (2013-14)</b>	<b>Bagasse price (₹/MT) (2014-15)</b>
Andhra Pradesh	1400.47	1551.24
Haryana	1991.94	2206.38
Maharashtra	1963.01	2174.34
Punjab	1753.00	1941.72
Tamil Nadu	1508.69	1671.11
Uttar Pradesh	1562.27	1730.46
Other States	1696.20	1878.81

**Note:**

1. The Calculation of WPI (n) and WPI (n-1) is based on the figures available on April 2013 and April 2012 respectively.
2. The Calculation of Pd (n) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2013 to November 2013.
3. The Calculation of Pd (n-1) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2012 to December 2012.
4. The Calculation of Pd (n) and Pd (n-1) are shown as under:

WPI (Price of HSD)

Month	2013	2012
Jan	198.800	167.800
Feb	202.700	167.800
Mar	201.700	167.800
Apr	202.300	167.800
May	203.400	167.800
Jun	207.000	167.800
Jul	212.000	167.800
Aug	215.400	168.600
Sep	219.800	182.800
Oct	220.500	192.300
Nov	222.400	192.300
Dec		192.300
Average	Pd (n) :209.636	Pd (n-1) : 175.242

Source of WPI and WPI (Price of HSD): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in)),

From	To	IRC	Days	Average IRC
01-04-2013	30-09-2013	9.82%	183	9.81%
01-10-2013	31-03-2014	9.81%	182	
			365	

Source of IRC: CERC ([www.cercind.gov.in](http://www.cercind.gov.in))

**Biomass Gasifier Fuel Price across States for FY 2014-15**

As per fuel price Index Mechanism outlined under Regulation 74 and the availability of required information

**Fuel Price indexation for Biomass gasifier Power Projects (FY2014-15)****Indexation Formulation**

$$P_{(n)} = P_{(n-1)} * \{a * (WPI_{(n)}/WPI_{(n-1)}) + b * (1 + IRC_{(n-1)}) + c * (Pd_{(n)}/Pd_{(n-1)})\}$$

Parameter	Value
WPI <sub>(n-1)</sub>	<b>163.500</b>
WPI <sub>(n)</sub>	<b>171.300</b>
IRC <sub>(n-1)</sub>	<b>9.81%</b>
Pd <sub>(n-1)</sub>	<b>175.242</b>
Pd <sub>(n)</sub>	<b>209.636</b>
A	<b>0.20</b>
B	<b>0.60</b>
C	<b>0.20</b>

State	Biomass price (₹/MT) (2013-14)	Biomass price (₹/MT) (2014-15)
Andhra Pradesh	2480.55	2747.59
Haryana	2823.44	3127.40
Maharashtra	2887.73	3198.61
Punjab	2953.09	3271.01
Rajasthan	2464.48	2729.79
Tamil Nadu	2439.83	2702.49
Uttar Pradesh	2523.41	2795.07
Other States	2653.07	2938.69

Note:

1. The Calculation of WPI (n) and WPI (n-1) is based on the figures available on April 2013 and April 2012 respectively.
2. The Calculation of Pd (n) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2013 to November 2013.
3. The Calculation of Pd (n-1) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2012 to December 2012.
4. The Calculation of Pd (n) and Pd (n-1) are shown as under:

WPI (Price of HSD)

Month	2013	2012
Jan	198.800	167.800
Feb	202.700	167.800
Mar	201.700	167.800
Apr	202.300	167.800
May	203.400	167.800
Jun	207.000	167.800
Jul	212.000	167.800
Aug	215.400	168.600
Sep	219.800	182.800
Oct	220.500	192.300
Nov	222.400	192.300
Dec		192.300
Average	Pd (n) :209.636	Pd (n-1) : 175.242

Source of WPI and WPI (Price of HSD): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in)),

From	To	IRC	Days	Average IRC
01-04-2013	30-09-2013	9.82%	183	
01-10-2013	31-03-2014	9.81%	182	9.81%
			365	

Source of IRC: CERC ([www.cercind.gov.in](http://www.cercind.gov.in))

**Fuel Price for biogas based power plant for FY 2014-15**

As per fuel price Index Mechanism outlined under Regulation 83 and the availability of required information

**Fuel Price indexation for Biogas based power projects (FY2014-15)****Indexation Formulation**

$$P_{(n)} = P_{(n-1)} * \{a * (WPI_{(n)}/WPI_{(n-1)}) + b * (1 + IRC_{(n-1)}) + c * (Pd_{(n)}/Pd_{(n-1)})\}$$

<b>Parameter</b>	<b>Value</b>
WPI <sub>(n-1)</sub>	<b>163.500</b>
WPI <sub>(n)</sub>	<b>171.300</b>
IRC <sub>(n-1)</sub>	<b>9.81%</b>
Pd <sub>(n-1)</sub>	<b>175.242</b>
Pd <sub>(n)</sub>	<b>209.636</b>
A	<b>0.20</b>
B	<b>0.60</b>
C	<b>0.20</b>

<b>Fuel price (₹/MT) (2013-14)</b>	<b>Fuel price (₹/MT) (2014-15)</b>
1060.80	1175.00

Note:

1. The Calculation of WPI (n) and WPI (n-1) is based on the figures available on April 2013 and April 2012 respectively.
2. The Calculation of Pd (n) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2013 to November 2013.
3. The Calculation of Pd (n-1) is based on the weighted average of the WPI (Price of HSD) figures available for the months from January 2012 to December 2012.
4. The Calculation of Pd (n) and Pd (n-1) are shown as under:



WPI (Price of HSD)

Month	2013	2012
Jan	198.800	167.800
Feb	202.700	167.800
Mar	201.700	167.800
Apr	202.300	167.800
May	203.400	167.800
Jun	207.000	167.800
Jul	212.000	167.800
Aug	215.400	168.600
Sep	219.800	182.800
Oct	220.500	192.300
Nov	222.400	192.300
Dec		192.300
Average	Pd (n) :209.636	Pd (n-1) : 175.242

Source of WPI and WPI (Price of HSD): Office of Economic Advisor, Ministry of Commerce and Industry ([www.eaindustry.nic.in](http://www.eaindustry.nic.in)),

From	To	IRC	Days	Average IRC
01-04-2013	30-09-2013	9.82%	183	
01-10-2013	31-03-2014	9.81%	182	9.81%
			365	

Source of IRC: CERC ([www.cercind.gov.in](http://www.cercind.gov.in))

Assumptions: Wind Energy Projects						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Wind Zone 1	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Capacity Utilization Factor	%	20%	
			Useful Life	Years	25	
2	Project Cost	<u>Capital Cost/MW</u>	Power Plant Cost	Rs Lacs/MW	603.426	
3	Sources of Fund	<u>Debt: Equity</u>	Tariff Period	Years	13	
			Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	422.398	
			Total Equity Amount	Rs Lacs	181.028	
			<u>Debt Component</u>	Loan Amount	Rs Lacs	422.40
			Moratorium Period	years	0	
			Repayment Period(incl'd Moratorium)	years	12	
			Interest Rate	%	12.70%	
			<u>Equity Component</u>	Equity amount	Rs Lacs	181.03
				Return on Equity for first 10 years	% p.a	20.00%
				Return on Equity 11th year onwards	% p.a	24.00%
		Weighted average of ROE		22.40%		
		Discount Rate		10.81%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%	
			<u>Depreciation</u>	Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	1.54%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M expenses)	15%	
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>			
			Interest On Working Capital	%	13.20%	
6	Operation & Maintenance	<u>O &amp;M (FY14-15)</u>		Rs Lacs/MW	10.05	
			<u>Total O &amp; M Expenses Escalation</u>	%	5.72%	
			<u>O &amp;M (FY13-14)</u>	Rs Lacs/MW	9.51	

Determination of Tariff																											
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
Gross/Net Generation	MU		1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
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		10.05	10.63	11.24	11.88	12.56	13.28	14.04	14.84	15.69	16.59	17.54	18.54	19.60	20.72	21.90	23.16	24.48	25.88	27.36	28.93	30.58	32.33	34.18	36.14	38.20
Depreciation	Rs Lakh		35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Interest on term loan	Rs Lakh		51.41	46.94	42.47	38.00	33.53	29.06	24.59	20.12	15.65	11.18	6.71	2.24	0.00	0.00	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		3.31	3.24	3.17	3.10	3.04	2.98	2.92	2.86	2.80	2.75	2.87	2.82	2.24	2.31	2.37	2.44	2.51	2.58	2.66	2.75	2.84	2.93	3.03	3.14	3.25
Return on Equity	Rs Lakh		36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>136.15</b>	<b>132.19</b>	<b>128.26</b>	<b>124.37</b>	<b>120.51</b>	<b>116.70</b>	<b>112.93</b>	<b>109.20</b>	<b>105.53</b>	<b>101.90</b>	<b>105.73</b>	<b>102.22</b>	<b>74.59</b>	<b>75.77</b>	<b>77.02</b>	<b>78.34</b>	<b>79.74</b>	<b>81.22</b>	<b>82.78</b>	<b>84.43</b>	<b>86.17</b>	<b>88.01</b>	<b>89.96</b>	<b>92.02</b>	<b>94.20</b>
Levillised tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	Levillised	1	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 expn	Rs/kWh	<b>0.91</b>	0.57	0.61	0.64	0.68	0.72	0.76	0.80	0.85	0.90	0.95	1.00	1.06	1.12	1.18	1.25	1.32	1.40	1.48	1.56	1.65	1.75	1.85	1.95	2.06	2.18
Depreciation	Rs/kWh	<b>1.66</b>	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Int. on term loan	Rs/kWh	<b>1.41</b>	2.93	2.68	2.42	2.17	1.91	1.66	1.40	1.15	0.89	0.64	0.38	0.13	0.00	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	<b>0.17</b>	0.19	0.18	0.18	0.18	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.19
RoE	Rs/kWh	<b>2.19</b>	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
<b>Total COG</b>	<b>Rs/kWh</b>	<b>6.34</b>	<b>7.77</b>	<b>7.55</b>	<b>7.32</b>	<b>7.10</b>	<b>6.88</b>	<b>6.66</b>	<b>6.45</b>	<b>6.23</b>	<b>6.02</b>	<b>5.82</b>	<b>6.04</b>	<b>5.83</b>	<b>4.26</b>	<b>4.32</b>	<b>4.40</b>	<b>4.47</b>	<b>4.55</b>	<b>4.64</b>	<b>4.72</b>	<b>4.82</b>	<b>4.92</b>	<b>5.02</b>	<b>5.13</b>	<b>5.25</b>	<b>5.38</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levillised Tariff</b>	<b>6.34</b>	Rs/Unit																									

Determination of Accelerated Depreciation for Wind Power Projects																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	15%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost Rs. Lakh	603.426																				
Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	15.93	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	17.38	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	82.50%	61.88%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%
Allowed during the year	%	17.50%	20.63%	9.28%	7.89%	6.71%	5.70%	4.84%	4.12%	3.50%	2.98%	2.53%	2.15%	1.83%	1.55%	1.32%	1.12%	0.95%	0.81%	0.69%	0.59%
Closing	%	83%	62%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	3.32%
Accelerated Depm.	Rs Lakh	105.60	124.46	56.01	47.60	40.46	34.39	29.24	24.85	21.12	17.95	15.26	12.97	11.03	9.37	7.97	6.77	5.76	4.89	4.16	3.53
Net Depreciation Benefit	Rs Lakh	89.67	92.60	24.14	15.74	8.60	2.53	-2.63	-7.01	-10.74	-13.91	-16.60	-18.89	-20.83	-22.49	-23.89	-25.09	-26.11	-12.49	4.16	3.53
Tax Benefit	Rs Lakh	29.09	30.04	7.83	5.11	2.79	0.82	-0.85	-2.27	-3.48	-4.51	-5.39	-6.13	-6.76	-7.30	-7.75	-8.14	-8.47	-4.05	1.35	1.15
Energy generation	MU	0.88	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Per unit benefit	Rs/Unit	3.32	1.71	0.45	0.29	0.16	0.05	-0.05	-0.13	-0.20	-0.26	-0.31	-0.35	-0.39	-0.42	-0.44	-0.46	-0.48	-0.23	0.08	0.07
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.33</b>	<b>Rs/Unit</b>																			

Assumptions: Wind Energy Projects						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Wind Zone 2	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Capacity Utilization Factor	%	22%	
			Useful Life	Years	25	
2	Project Cost	<u>Capital Cost/MW</u>	Power Plant Cost	Rs Lacs/MW	603.426	
3	Sources of Fund	<u>Debt: Equity</u>	Tariff Period	Years	13	
			Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	422.398	
			Total Equity Amount	Rs Lacs	181.028	
			<u>Debt Component</u>	Loan Amount	Rs Lacs	422.40
			Moratorium Period	years	0	
			Repayment Period(incl'd Moratorium)	years	12	
			Interest Rate	%	12.70%	
			<u>Equity Component</u>	Equity amount	Rs Lacs	181.03
			Return on Equity for first 10 years	% p.a	20.00%	
			Return on Equity 11th year onwards	% p.a	24.00%	
Weighted average of ROE		22.40%				
Discount Rate		10.81%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%	
			<u>Depreciation</u>	Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	1.54%	
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>	Interest On Working Capital	%	13.20%
6	Operation & Maintenance	<u>O &amp;M (FY14-15)</u>		Rs Lacs/MW	10.05	
			<u>Total O &amp; M Expenses Escalation</u>	%	5.72%	
			<u>O &amp;M (FY13-14)</u>	Rs Lacs/MW	9.51	

Determination of Tariff																											
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
Gross/Net Generation	MU		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	1.93	1.93	1.93	1.93
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		10.05	10.63	11.24	11.88	12.56	13.28	14.04	14.84	15.69	16.59	17.54	18.54	19.60	20.72	21.90	23.16	24.48	25.88	27.36	28.93	30.58	32.33	34.18	36.14	38.20
Depreciation	Rs Lakh		35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Interest on term loan	Rs Lakh		51.41	46.94	42.47	38.00	33.53	29.06	24.59	20.12	15.65	11.18	6.71	2.24	0.00	0.00	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		3.31	3.24	3.17	3.10	3.04	2.98	2.92	2.86	2.80	2.75	2.87	2.82	2.24	2.31	2.37	2.44	2.51	2.58	2.66	2.75	2.84	2.93	3.03	3.14	3.25
Return on Equity	Rs Lakh		36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>136.15</b>	<b>132.19</b>	<b>128.26</b>	<b>124.37</b>	<b>120.51</b>	<b>116.70</b>	<b>112.93</b>	<b>109.20</b>	<b>105.53</b>	<b>101.90</b>	<b>105.73</b>	<b>102.22</b>	<b>74.59</b>	<b>75.77</b>	<b>77.02</b>	<b>78.34</b>	<b>79.74</b>	<b>81.22</b>	<b>82.78</b>	<b>84.43</b>	<b>86.17</b>	<b>88.01</b>	<b>89.96</b>	<b>92.02</b>	<b>94.20</b>
Levelling tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	Levelling	1	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 expn	Rs/kWh	<b>0.83</b>	0.52	0.55	0.58	0.62	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.02	1.08	1.14	1.20	1.27	1.34	1.42	1.50	1.59	1.68	1.77	1.88	1.98
Depreciation	Rs/kWh	<b>1.51</b>	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
Int. on term loan	Rs/kWh	<b>1.28</b>	2.67	2.44	2.20	1.97	1.74	1.51	1.28	1.04	0.81	0.58	0.35	0.12	0.00	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	<b>0.15</b>	0.17	0.17	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.14	0.15	0.15	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
RoE	Rs/kWh	<b>1.99</b>	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
<b>Total COG</b>	<b>Rs/kWh</b>	<b>5.77</b>	<b>7.06</b>	<b>6.86</b>	<b>6.66</b>	<b>6.45</b>	<b>6.25</b>	<b>6.06</b>	<b>5.86</b>	<b>5.67</b>	<b>5.48</b>	<b>5.29</b>	<b>5.49</b>	<b>5.30</b>	<b>3.87</b>	<b>3.93</b>	<b>4.00</b>	<b>4.07</b>	<b>4.14</b>	<b>4.21</b>	<b>4.30</b>	<b>4.38</b>	<b>4.47</b>	<b>4.57</b>	<b>4.67</b>	<b>4.77</b>	<b>4.89</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levelling Tariff</b>	<b>5.77</b>	<b>Rs/Unit</b>																									

### Determination of Accelerated Depreciation for Wind Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	15%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost Rs. Lakh	603.426

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	15.93	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	17.38	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	82.50%	61.88%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%
Allowed during the year	%	17.50%	20.63%	9.28%	7.89%	6.71%	5.70%	4.84%	4.12%	3.50%	2.98%	2.53%	2.15%	1.83%	1.55%	1.32%	1.12%	0.95%	0.81%	0.69%	0.59%
Closing	%	83%	62%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	3.32%
Accelerated Deprn.	Rs Lakh	105.60	124.46	56.01	47.60	40.46	34.39	29.24	24.85	21.12	17.95	15.26	12.97	11.03	9.37	7.97	6.77	5.76	4.89	4.16	3.53
Net Depreciation Benefit	Rs Lakh	89.67	92.60	24.14	15.74	8.60	2.53	-2.63	-7.01	-10.74	-13.91	-16.60	-18.89	-20.83	-22.49	-23.89	-25.09	-26.11	-12.49	4.16	3.53
Tax Benefit	Rs Lakh	29.09	30.04	7.83	5.11	2.79	0.82	-0.85	-2.27	-3.48	-4.51	-5.39	-6.13	-6.76	-7.30	-7.75	-8.14	-8.47	-4.05	1.35	1.15
Energy generation	MU	0.96	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
Per unit benefit	Rs/Unit	3.02	1.56	0.41	0.27	0.14	0.04	-0.04	-0.12	-0.18	-0.23	-0.28	-0.32	-0.35	-0.38	-0.40	-0.42	-0.44	-0.21	0.07	0.06
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.30 Rs/Unit</b>																				

Assumptions: Wind Energy Projects						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Wind Zone 3	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Capacity Utilization Factor	%	25%	
			Useful Life	Years	25	
2	Project Cost	<u>Capital Cost/MW</u>	Power Plant Cost	Rs Lacs/MW	603.426	
3	Sources of Fund	<u>Debt: Equity</u>	Tariff Period	Years	13	
			Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	422.398	
			Total Equity Amount	Rs Lacs	181.028	
			<u>Debt Component</u>	Loan Amount	Rs Lacs	422.40
				Moratorium Period	years	0
				Repayment Period(incl'd Moratorium)	years	12
				Interest Rate	%	12.70%
			<u>Equity Component</u>	Equity amount	Rs Lacs	181.03
				Return on Equity for first 10 years	% p.a	20.00%
				Return on Equity 11th year onwards	% p.a	24.00%
Weighted average of ROE		22.40%				
Discount Rate		10.81%				
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%	
			<u>Depreciation</u>	Depreciation Rate for first 12 years	%	5.83%
				Depreciation Rate 13th year onwards	%	1.54%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>	Interest On Working Capital	%	13.20%
6	Operation & Maintenance	<u>O &amp;M (FY14-15)</u>		Rs Lacs/MW	10.05	
			<u>Total O &amp; M Expenses Escalation</u>	%	5.72%	
			<u>O &amp;M (FY13-14)</u>	Rs Lacs/MW	9.51	



Determination of Tariff																											
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	
Gross/Net Generation	MU	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	
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	10.05	10.63	11.24	11.88	12.56	13.28	14.04	14.84	15.69	16.59	17.54	18.54	19.60	20.72	21.90	23.16	24.48	25.88	27.36	28.93	30.58	32.33	34.18	36.14	38.20	
Depreciation	Rs Lakh	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	
Interest on term loan	Rs Lakh	51.41	46.94	42.47	38.00	33.53	29.06	24.59	20.12	15.65	11.18	6.71	2.24	0.00	0.00	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	3.31	3.24	3.17	3.10	3.04	2.98	2.92	2.86	2.80	2.75	2.67	2.62	2.24	2.31	2.37	2.44	2.51	2.58	2.66	2.75	2.84	2.93	3.03	3.14	3.25	
Return on Equity	Rs Lakh	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>	<b>136.15</b>	<b>132.19</b>	<b>128.26</b>	<b>124.37</b>	<b>120.51</b>	<b>116.70</b>	<b>112.93</b>	<b>109.20</b>	<b>105.53</b>	<b>101.90</b>	<b>105.73</b>	<b>102.22</b>	<b>74.59</b>	<b>75.77</b>	<b>77.02</b>	<b>78.34</b>	<b>79.74</b>	<b>81.22</b>	<b>82.78</b>	<b>84.43</b>	<b>86.17</b>	<b>88.01</b>	<b>89.96</b>	<b>92.02</b>	<b>94.20</b>	
Levillised tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	Levillised	1	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 expn	Rs/kWh	0.73	0.46	0.49	0.51	0.54	0.57	0.61	0.64	0.68	0.72	0.76	0.80	0.85	0.89	0.95	1.00	1.06	1.12	1.18	1.25	1.32	1.40	1.48	1.56	1.65	1.74
Depreciation	Rs/kWh	1.33	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Int. on term loan	Rs/kWh	1.13	2.35	2.14	1.94	1.74	1.53	1.33	1.12	0.92	0.71	0.51	0.31	0.10	0.00	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	0.15	0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.15
RoE	Rs/kWh	1.75	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
<b>Total COG</b>	<b>Rs/kWh</b>	<b>5.08</b>	<b>6.22</b>	<b>6.04</b>	<b>5.86</b>	<b>5.68</b>	<b>5.50</b>	<b>5.33</b>	<b>5.16</b>	<b>4.99</b>	<b>4.82</b>	<b>4.65</b>	<b>4.83</b>	<b>4.67</b>	<b>3.41</b>	<b>3.46</b>	<b>3.52</b>	<b>3.58</b>	<b>3.64</b>	<b>3.71</b>	<b>3.78</b>	<b>3.86</b>	<b>3.93</b>	<b>4.02</b>	<b>4.11</b>	<b>4.20</b>	<b>4.30</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levillised Tariff</b>	<b>5.08</b>	Rs/Unit																									

Determination of Accelerated Depreciation for Wind Power Projects																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	15%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost Rs. Lakh	603.426																				
Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	15.93	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	17.38	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	82.50%	61.88%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%
Allowed during the year	%	17.50%	20.63%	9.28%	7.89%	6.71%	5.70%	4.84%	4.12%	3.50%	2.98%	2.53%	2.15%	1.83%	1.55%	1.32%	1.12%	0.95%	0.81%	0.69%	0.59%
Closing	%	83%	62%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	3.32%
Accelerated Deprn.	Rs Lakh	105.60	124.46	56.01	47.60	40.46	34.39	29.24	24.85	21.12	17.95	15.26	12.97	11.03	9.37	7.97	6.77	5.76	4.89	4.16	3.53
Net Depreciation Benefit	Rs Lakh	89.67	92.60	24.14	15.74	8.60	2.53	-2.63	-7.01	-10.74	-13.91	-16.60	-18.89	-20.83	-22.49	-23.89	-25.09	-26.11	-12.49	4.16	3.53
Tax Benefit	Rs Lakh	29.09	30.04	7.83	5.11	2.79	0.82	-0.85	-2.27	-3.48	-4.51	-5.39	-6.13	-6.76	-7.30	-7.75	-8.14	-8.47	-4.05	1.35	1.15
Energy generation	MU	1.10	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
Per unit benefit	Rs/Unit	2.66	1.37	0.36	0.23	0.13	0.04	-0.04	-0.10	-0.16	-0.21	-0.25	-0.28	-0.31	-0.33	-0.35	-0.37	-0.39	-0.18	0.06	0.05
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.27</b>	<b>Rs/Unit</b>																			

Assumptions: Wind Energy Projects					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Wind Zone 4
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	30%
			Useful Life	Years	25
2	Project Cost	<u>Capital Cost/MW</u>	Power Plant Cost	Rs Lacs/MW	603.426
3	Sources of Fund	<u>Debt: Equity</u>	Tariff Period	Years	13
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	422.398
			Total Equity Amount	Rs Lacs	181.028
			<u>Debt Component</u>		
			Loan Amount	Rs Lacs	422.40
			Moratorium Period	years	0
			Repayment Period(incl'd Moratorium)	years	12
			Interest Rate	%	12.70%
			<u>Equity Component</u>		
			Equity amount	Rs Lacs	181.03
Return on Equity for first 10 years	% p.a	20.00%			
Return on Equity 11th year onwards	% p.a	24.00%			
Weighted average of ROE		22.40%			
Discount Rate		10.81%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
			<u>Depreciation</u>		
			Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	1.54%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15%
			Receivables for Debtors	Months	2
			<u>For Variable Charges</u>		
			Interest On Working Capital	%	13.20%
6	Operation & Maintenance	<u>O &amp;M (FY14-15)</u>		Rs Lacs/MW	10.05
			<u>Total O &amp; M Expenses Escalation</u>	%	5.72%
			<u>O &amp;M (FY13-14)</u>	Rs Lacs/MW	9.51

Determination of Tariff																											
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
Gross/Net Generation	MU		2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
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		10.05	10.63	11.24	11.88	12.56	13.28	14.04	14.84	15.69	16.59	17.54	18.54	19.60	20.72	21.90	23.16	24.48	25.88	27.36	28.93	30.58	32.33	34.18	36.14	38.20
Depreciation	Rs Lakh		35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Interest on term loan	Rs Lakh		51.41	46.94	42.47	38.00	33.53	29.06	24.59	20.12	15.65	11.18	6.71	2.24	0.00	0.00	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		3.31	3.24	3.17	3.10	3.04	2.98	2.92	2.86	2.80	2.75	2.87	2.82	2.24	2.31	2.37	2.44	2.51	2.58	2.66	2.75	2.84	2.93	3.03	3.14	3.25
Return on Equity	Rs Lakh		36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>136.15</b>	<b>132.19</b>	<b>128.26</b>	<b>124.37</b>	<b>120.51</b>	<b>116.70</b>	<b>112.93</b>	<b>109.20</b>	<b>105.53</b>	<b>101.90</b>	<b>105.73</b>	<b>102.22</b>	<b>74.59</b>	<b>75.77</b>	<b>77.02</b>	<b>78.34</b>	<b>79.74</b>	<b>81.22</b>	<b>82.78</b>	<b>84.43</b>	<b>86.17</b>	<b>88.01</b>	<b>89.96</b>	<b>92.02</b>	<b>94.20</b>
Levallised tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	Levellised	1	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 expn	Rs/kWh	0.61	0.38	0.40	0.43	0.45	0.48	0.51	0.53	0.56	0.60	0.63	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.38	1.45
Depreciation	Rs/kWh	1.11	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Int. on term loan	Rs/kWh	0.94	1.96	1.79	1.62	1.45	1.28	1.11	0.94	0.77	0.60	0.43	0.26	0.09	0.00	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	0.13	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.10	0.11	0.11	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.12	0.12	0.12
RoE	Rs/kWh	1.46	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
<b>Total COG</b>	<b>Rs/kWh</b>	<b>4.23</b>	<b>5.18</b>	<b>5.03</b>	<b>4.88</b>	<b>4.73</b>	<b>4.59</b>	<b>4.44</b>	<b>4.30</b>	<b>4.16</b>	<b>4.02</b>	<b>3.88</b>	<b>4.02</b>	<b>3.89</b>	<b>2.84</b>	<b>2.88</b>	<b>2.93</b>	<b>2.98</b>	<b>3.03</b>	<b>3.09</b>	<b>3.15</b>	<b>3.21</b>	<b>3.28</b>	<b>3.35</b>	<b>3.42</b>	<b>3.50</b>	<b>3.58</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levellised Tariff</b>	<b>4.23</b>	<b>Rs/Unit</b>																									

Determination of Accelerated Depreciation for Wind Power Projects																						
Depreciation amount	90%																					
Book Depreciation rate	5.28%																					
Tax Depreciation rate	15%																					
Additional Depreciation	20.00%																					
Income Tax (Normal Rates)	32.445%																					
Capital Cost Rs. Lakh	603.426																					
Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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%	
Book Depreciation	Rs Lakh	15.93	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	17.38	0.00	0.00
<b>Accelerated Depreciation</b>																						
Opening	%	100.00%	82.50%	61.88%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	
Allowed during the year	%	17.50%	20.63%	9.28%	7.89%	6.71%	5.70%	4.84%	4.12%	3.50%	2.98%	2.53%	2.15%	1.83%	1.55%	1.32%	1.12%	0.95%	0.81%	0.69%	0.59%	
Closing	%	83%	62%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	3.32%	
Accelerated Deprn.	Rs Lakh	105.60	124.46	56.01	47.60	40.46	34.39	29.24	24.85	21.12	17.95	15.26	12.97	11.03	9.37	7.97	6.77	5.76	4.89	4.16	3.53	
Net Depreciation Benefit	Rs Lakh	89.67	92.60	24.14	15.74	8.60	2.53	-2.63	-7.01	-10.74	-13.91	-16.60	-18.89	-20.83	-22.49	-23.89	-25.09	-26.11	-12.49	4.16	3.53	
Tax Benefit	Rs Lakh	29.09	30.04	7.83	5.11	2.79	0.82	-0.85	-2.27	-3.48	-4.51	-5.39	-6.13	-6.76	-7.30	-7.75	-8.14	-8.47	-4.05	1.35	1.15	
Energy generation	MU	1.31	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	
Per unit benefit	Rs/Unit	2.21	1.14	0.30	0.19	0.11	0.03	-0.03	-0.09	-0.13	-0.17	-0.20	-0.23	-0.26	-0.28	-0.29	-0.31	-0.32	-0.15	0.05	0.04	
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.22</b>	<b>Rs/Unit</b>																				

Assumptions: Wind Energy Projects					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Wind Zone 5
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	32%
			Useful Life	Years	25
2	Project Cost	<u>Capital Cost/MW</u>	Power Plant Cost	Rs Lacs/MW	603.426
3	Sources of Fund	<u>Debt: Equity</u>	Tariff Period	Years	13
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	422.398
			Total Equity Amount	Rs Lacs	181.028
			<u>Debt Component</u>		
			Loan Amount	Rs Lacs	422.40
			Moratorium Period	years	0
			Repayment Period(incl'd Moratorium)	years	12
			Interest Rate	%	12.70%
			<u>Equity Component</u>		
Equity amount	Rs Lacs	181.03			
Return on Equity for first 10 years	% p.a	20.00%			
Return on Equity 11th year onwards	% p.a	24.00%			
Weighted average of ROE		22.40%			
Discount Rate		10.81%			
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
			<u>Depreciation</u>		
			Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	1.54%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15%
			Receivables for Debtors	Months	2
			<u>For Variable Charges</u>		
			Interest On Working Capital	%	13.20%
6	Operation & Maintenance	<u>O &amp;M (FY14-15)</u>		Rs Lacs/MW	10.05
			<u>Total O &amp; M Expenses Escalation</u>	%	5.72%
			<u>O &amp;M (FY13-14)</u>	Rs Lacs/MW	9.51

Determination of Tariff																											
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
Gross/Net Generation	MU		2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
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		10.05	10.63	11.24	11.88	12.56	13.28	14.04	14.84	15.69	16.59	17.54	18.54	19.60	20.72	21.90	23.16	24.48	25.88	27.36	28.93	30.58	32.33	34.18	36.14	38.20
Depreciation	Rs Lakh		35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	35.18	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Interest on term loan	Rs Lakh		51.41	46.94	42.47	38.00	33.53	29.06	24.59	20.12	15.65	11.18	6.71	2.24	0.00	0.00	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		3.31	3.24	3.17	3.10	3.04	2.98	2.92	2.86	2.80	2.75	2.87	2.82	2.24	2.31	2.37	2.44	2.51	2.58	2.66	2.75	2.84	2.93	3.03	3.14	3.25
Return on Equity	Rs Lakh		36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	36.21	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45	43.45
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>136.15</b>	<b>132.19</b>	<b>128.26</b>	<b>124.37</b>	<b>120.51</b>	<b>116.70</b>	<b>112.93</b>	<b>109.20</b>	<b>105.53</b>	<b>101.90</b>	<b>105.73</b>	<b>102.22</b>	<b>74.59</b>	<b>75.77</b>	<b>77.02</b>	<b>78.34</b>	<b>79.74</b>	<b>81.22</b>	<b>82.78</b>	<b>84.43</b>	<b>86.17</b>	<b>88.01</b>	<b>89.96</b>	<b>92.02</b>	<b>94.20</b>
Levallised tariff corresponding to Useful life																											
Per Unit Cost of Generation	Unit	Levallised	1	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 expn	Rs/kWh	<b>0.57</b>	0.36	0.38	0.40	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.87	0.92	0.98	1.03	1.09	1.15	1.22	1.29	1.36
Depreciation	Rs/kWh	<b>1.04</b>	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Int. on term loan	Rs/kWh	<b>0.88</b>	1.83	1.67	1.52	1.36	1.20	1.04	0.88	0.72	0.56	0.40	0.24	0.08	0.00	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	<b>0.10</b>	0.12	0.12	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.12
RoE	Rs/kWh	<b>1.37</b>	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55
<b>Total COG</b>	<b>Rs/kWh</b>	<b>3.97</b>	<b>4.86</b>	<b>4.72</b>	<b>4.58</b>	<b>4.44</b>	<b>4.30</b>	<b>4.16</b>	<b>4.03</b>	<b>3.90</b>	<b>3.76</b>	<b>3.64</b>	<b>3.77</b>	<b>3.65</b>	<b>2.66</b>	<b>2.70</b>	<b>2.75</b>	<b>2.79</b>	<b>2.84</b>	<b>2.90</b>	<b>2.95</b>	<b>3.01</b>	<b>3.07</b>	<b>3.14</b>	<b>3.21</b>	<b>3.28</b>	<b>3.36</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levallised Tariff</b>	<b>3.97</b>	<b>Rs/Unit</b>																									

Determination of Accelerated Depreciation for Wind Power Projects																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	15%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost Rs. Lakh	603.426																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	15.93	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	31.86	17.38	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	82.50%	61.88%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%
Allowed during the year	%	17.50%	20.63%	9.28%	7.89%	6.71%	5.70%	4.84%	4.12%	3.50%	2.98%	2.53%	2.15%	1.83%	1.55%	1.32%	1.12%	0.95%	0.81%	0.69%	0.59%
Closing	%	83%	62%	52.59%	44.70%	38.00%	32.30%	27.45%	23.34%	19.84%	16.86%	14.33%	12.18%	10.35%	8.80%	7.48%	6.36%	5.41%	4.59%	3.91%	3.32%
Accelerated Depn.	Rs Lakh	105.60	124.46	56.01	47.60	40.46	34.39	29.24	24.85	21.12	17.95	15.26	12.97	11.03	9.37	7.97	6.77	5.76	4.89	4.16	3.53
Net Depreciation Benefit	Rs Lakh	89.67	92.60	24.14	15.74	8.60	2.53	-2.63	-7.01	-10.74	-13.91	-16.60	-18.89	-20.83	-22.49	-23.89	-25.09	-26.11	-12.49	4.16	3.53
Tax Benefit	Rs Lakh	29.09	30.04	7.83	5.11	2.79	0.82	-0.85	-2.27	-3.48	-4.51	-5.39	-6.13	-6.76	-7.30	-7.75	-8.14	-8.47	-4.05	1.35	1.15
Energy generation	MU	1.40	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Per unit benefit	Rs/Unit	2.08	1.07	0.28	0.18	0.10	0.03	-0.03	-0.08	-0.12	-0.16	-0.19	-0.22	-0.24	-0.26	-0.28	-0.29	-0.30	-0.14	0.05	0.04
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.21</b>	<b>Rs/Unit</b>																			



Small Hydro: Assumptions Parameters					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	HP, Uttarakhand, NE States
					Less than 5 MW
1	Power Generation	Capacity	Installed Power Generation Capacity Capacity Utilization Factor Auxiliary Consumption Useful Life	MW % % Years	1 45% 1% 35
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	808.067
3	Sources of Fund	Debt: Equity	Tariff Period	Years	35
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	565.647
			Total Equity Amount	Rs Lacs	242.420
		Debt Component	Loan Amount	Rs Lacs	565.65
			Moratorium Period	years	0
			Repayment Period(incl Moratorium)	years	12
			Intrest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	242.42
			Normative ROE (Post-tax)		16%
			Return on Equity for first 10 years	% p.a	20%
			Return on Equity 11th year onwards	% p.a	24.00%
			Weighted average of ROE		22.86%
			Discount Rate		10.81%
4	Financial Assumptions		Income Tax	%	32.445%
		Depreciation	Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	0.87%
5	Working Capital	For Fixed Charges		Months	1
		O&M Charges		Months	15%
		Maintenance Spare	(% of O&M exepenses)	Months	2
		Receivables for Debtors		%	13.20%
		Intrest On Working Capital			
6	Operation & Maintenance	O&M Expenses (2014-15)		Rs Lacs	27.94
		Total O & M Expenses Escalation		%	5.72%
		O&M Expenses (2013-14)			26.43

Determination of Tariff Component:																																					
Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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	
Net Generation	MU		3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
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
O&M Expenses	Rs Lakh		27.94	29.54	31.23	33.02	34.90	36.90	39.01	41.24	43.60	46.10	48.73	51.52	54.47	57.58	60.88	64.36	68.04	71.93	76.05	80.40	85.00	89.86	95.00	100.43	106.18	112.25	118.67	125.46	132.63	140.22	148.24	156.72	165.69	175.16	185.18
Depreciation	Rs Lakh		47.11	47.11	47.11	47.11	47.11	47.11	47.11	47.11	47.11	47.11	47.11	47.11	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Interest on term loan	Rs Lakh		68.84	62.86	56.87	50.88	44.90	38.91	32.93	26.94	20.95	14.97	8.98	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Cap	Rs Lakh		5.21	5.16	5.12	5.08	5.04	5.02	5.00	4.98	4.98	4.98	5.20	5.22	4.41	4.58	4.75	4.94	5.14	5.35	5.57	5.81	6.06	6.32	6.60	6.89	7.20	7.53	7.87	8.24	8.63	9.04	9.47	9.93	10.41	10.92	11.46
Return on Equity	Rs Lakh		48.48	48.48	48.48	48.48	48.48	48.48	48.48	48.48	48.48	48.48	48.48	48.48	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18	58.18
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>197.59</b>	<b>193.15</b>	<b>188.81</b>	<b>184.57</b>	<b>180.44</b>	<b>176.43</b>	<b>172.53</b>	<b>168.76</b>	<b>165.13</b>	<b>161.63</b>	<b>168.21</b>	<b>165.02</b>	<b>124.10</b>	<b>127.38</b>	<b>130.85</b>	<b>134.52</b>	<b>138.40</b>	<b>142.50</b>	<b>146.84</b>	<b>151.43</b>	<b>156.27</b>	<b>161.40</b>	<b>166.81</b>	<b>172.54</b>	<b>178.60</b>	<b>185.00</b>	<b>191.77</b>	<b>198.92</b>	<b>206.48</b>	<b>214.48</b>	<b>222.93</b>	<b>231.87</b>	<b>241.32</b>	<b>251.31</b>	<b>261.87</b>
Levallised tariff corresponding to Useful life																																					
Per Unit Cost of Gen	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
O&M expn	Rs/kWh	1.26	0.72	0.76	0.80	0.85	0.89	0.95	1.00	1.06	1.12	1.18	1.25	1.32	1.40	1.48	1.56	1.65	1.74	1.84	1.95	2.06	2.18	2.30	2.43	2.57	2.72	2.88	3.04	3.21	3.40	3.59	3.80	4.02	4.25	4.49	4.75
Depreciation	Rs/kWh	0.93	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	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	0.80	1.76	1.61	1.46	1.30	1.15	1.00	0.84	0.69	0.54	0.38	0.23	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.18	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.27	0.28	0.29
RoE	Rs/kWh	1.33	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
<b>Total COG</b>	<b>Rs/kWh</b>	<b>4.46</b>	<b>5.06</b>	<b>4.95</b>	<b>4.84</b>	<b>4.73</b>	<b>4.62</b>	<b>4.52</b>	<b>4.42</b>	<b>4.32</b>	<b>4.23</b>	<b>4.14</b>	<b>4.31</b>	<b>4.23</b>	<b>3.18</b>	<b>3.26</b>	<b>3.35</b>	<b>3.45</b>	<b>3.55</b>	<b>3.65</b>	<b>3.76</b>	<b>3.88</b>	<b>4.00</b>	<b>4.14</b>	<b>4.27</b>	<b>4.42</b>	<b>4.58</b>	<b>4.74</b>	<b>4.91</b>	<b>5.10</b>	<b>5.29</b>	<b>5.50</b>	<b>5.71</b>	<b>5.94</b>	<b>6.18</b>	<b>6.44</b>	<b>6.71</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085	0.077	0.069	0.063	0.057	0.051	0.046	0.042	0.037	0.034	0.031
<b>Levallised Tariff</b>	<b>4.46</b>	<b>Rs/Unit</b>																																			

Determination of Accelerated Depreciation																																				
Depreciation amount		90%																																		
Book Depreciation rate		5.28%																																		
Tax Depreciation rate		80%																																		
Additional depreciation		20.00%																																		
Income Tax (Normal Rates)		32.445%																																		
Capital Cost		808.1																																		
<b>Years</b> ----->	<b>Unit</b>	1	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
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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation	Rs Lakh	21.33	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	42.67	23.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Accelerated Depreciation</b>																																				
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Accelerated Deprn.	Rs Lakh	404.03	363.63	32.32	6.46	1.29	0.26	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Net Depreciation Benefit	Rs Lakh	382.70	320.96	-10.34	-36.20	-41.37	-42.41	-42.61	-42.66	-42.67	-42.67	-42.67	-42.67	-42.67	-42.67	-42.67	-42.67	-42.67	-23.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Tax Benefit	Rs Lakh	124.17	104.14	-3.36	-11.75	-13.42	-13.76	-13.83	-13.84	-13.84	-13.84	-13.84	-13.84	-13.84	-13.84	-13.84	-13.84	-13.84	-7.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Energy generation	MU	1.95	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90		
Per unit benefit	Rs/Unit	6.36	2.67	-0.09	-0.30	-0.34	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.04	
Tax Benefit Levelled		13.13																																		
Electricity Generation (Levelled)		3.72																																		
<b>Levelled benefit</b>	<b>0.35</b>	<b>Rs/Unit</b>																																		

Small Hydro: Assumptions Parameters					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	HP, Uttarakhand, NE States
					5 MW to 25 MW
1	Power Generation	Capacity	Installed Power Generation Capacity Capacity Utilization Factor Auxiliary Consumption Useful Life	MW % % Years	1 45% 1% 35
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	734.606
3	Sources of Fund	<u>Debt: Equity</u>  <u>Debt Component</u>  <u>Equity Component</u>	Tariff Period  Debt Equity Total Debt Amount Total Equity Amount  Loan Amount Moratorium Period Repayment Period(incld Moratorium) Intrest Rate  Equity amount Normative ROE (Post-tax) Return on Equity for first 10 years  Return on Equity 11th year onwards Weighted average of ROE Discount Rate	Years  % % Rs Lacs Rs Lacs  Rs Lacs years years %  Rs Lacs % p.a % p.a % p.a %	13  70% 30% 514.224 220.382  514.22 0 12 12.70%  220.38 16% 20%  24.00% 22.86% 10.81%
4	Financial Assumptions	<u>Depreciation</u>	Income Tax  Depreciation Rate for first 12 years Depreciation Rate 13th year onwards	%  % %	32.445%  5.83% 0.87%
5	Working Capital	<u>For Fixed Charges</u> O&M Charges Maintenance Spare Receivables for Debtors  Intrest On Working Capital	(% of O&M exepenses)	Months  Months  %	1 15% 2 13.20%
6	Operation & Maintenance	O&M Expenses (2014-15) <u>Total O &amp; M Expenses Escalation</u> O&M Expenses (2013-14)		Rs Lacs %	20.12 5.72% 19.03

Determination of Tariff Component:																																						
Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
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	
Net Generation	MU		3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
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	
O&M Expenses	Rs Lakh		20.12	21.27	22.49	23.77	25.13	26.57	28.09	29.70	31.39	33.19	35.09	37.10	39.22	41.46	43.83	46.34	48.99	51.79	54.76	57.89	61.20	64.70	68.40	72.31	76.45	80.82	85.44	90.33	95.50	100.96	106.74	112.84	119.30	126.12	133.33	
Depreciation	Rs Lakh		42.83	42.83	42.83	42.83	42.83	42.83	42.83	42.83	42.83	42.83	42.83	42.83	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	
Interest on term loan	Rs Lakh		62.59	57.14	51.70	46.26	40.82	35.37	29.93	24.49	19.05	13.61	8.16	2.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Cap	Rs Lakh		4.45	4.39	4.33	4.28	4.23	4.19	4.14	4.11	4.08	4.05	4.23	4.22	3.45	3.57	3.70	3.84	3.98	4.13	4.29	4.46	4.64	4.83	5.03	5.24	5.46	5.70	5.95	6.21	6.49	6.78	7.10	7.43	7.77	8.14	8.53	
Return on Equity	Rs Lakh		44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	52.89	
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>174.06</b>	<b>169.70</b>	<b>165.42</b>	<b>161.21</b>	<b>157.08</b>	<b>153.03</b>	<b>149.07</b>	<b>145.20</b>	<b>141.42</b>	<b>137.75</b>	<b>134.20</b>	<b>130.96</b>	<b>128.03</b>	<b>125.33</b>	<b>122.87</b>	<b>120.64</b>	<b>118.62</b>	<b>116.80</b>	<b>115.17</b>	<b>113.73</b>	<b>112.47</b>	<b>111.38</b>	<b>110.45</b>	<b>109.67</b>	<b>109.03</b>	<b>108.53</b>	<b>108.16</b>	<b>107.91</b>	<b>107.77</b>	<b>107.73</b>	<b>107.79</b>	<b>107.94</b>	<b>108.18</b>	<b>108.51</b>	<b>108.92</b>	
Levelling tariff corresponding to Useful life																																						
Per Unit Cost of Gen	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	
O&M expn	Rs/kWh	<b>0.91</b>	0.52	0.55	0.58	0.61	0.64	0.68	0.72	0.76	0.80	0.85	0.90	0.95	1.00	1.06	1.12	1.19	1.26	1.33	1.40	1.48	1.57	1.66	1.75	1.85	1.96	2.07	2.19	2.31	2.45	2.59	2.74	2.89	3.06	3.23	3.42	
Depreciation	Rs/kWh	<b>0.84</b>	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	<b>0.73</b>	1.60	1.46	1.32	1.19	1.05	0.91	0.77	0.63	0.49	0.35	0.21	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
Int. on working capital	Rs/kWh	<b>0.11</b>	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.11	0.11	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.20	0.21	0.22	
RoE	Rs/kWh	<b>1.21</b>	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
<b>Total COG</b>	<b>Rs/kWh</b>	<b>3.80</b>	<b>4.46</b>	<b>4.35</b>	<b>4.24</b>	<b>4.13</b>	<b>4.03</b>	<b>3.92</b>	<b>3.82</b>	<b>3.72</b>	<b>3.62</b>	<b>3.53</b>	<b>3.67</b>	<b>3.58</b>	<b>2.61</b>	<b>2.67</b>	<b>2.74</b>	<b>2.81</b>	<b>2.88</b>	<b>2.95</b>	<b>3.03</b>	<b>3.12</b>	<b>3.21</b>	<b>3.30</b>	<b>3.40</b>	<b>3.51</b>	<b>3.62</b>	<b>3.74</b>	<b>3.86</b>	<b>3.99</b>	<b>4.13</b>	<b>4.28</b>	<b>4.44</b>	<b>4.60</b>	<b>4.78</b>	<b>4.96</b>	<b>5.15</b>	
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085	0.077	0.069	0.063	0.057	0.051	0.046	0.042	0.037	0.034	0.031	
<b>Levelling Tariff</b>	<b>3.80</b>	<b>Rs/Unit</b>																																				

Determination of Accelerated Depreciation																																				
Depreciation amount		90%																																		
Book Depreciation rate		5.28%																																		
Tax Depreciation rate		80%																																		
Additional depreciation		20.00%																																		
Income Tax (Normal Rates)		32.445%																																		
Capital Cost		734.6																																		
<b>Years</b> ----->	<b>Unit</b>	1	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
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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation	Rs Lakh	19.39	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	38.79	21.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Accelerated Depreciation</b>																																				
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Accelerated Deprn.	Rs Lakh	367.30	330.57	29.38	5.88	1.18	0.24	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	347.91	291.79	-9.40	-32.91	-37.61	-38.55	-38.74	-38.78	-38.79	-38.79	-38.79	-38.79	-38.79	-38.79	-38.79	-38.79	-38.79	-21.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tax Benefit	Rs Lakh	112.88	94.67	-3.05	-10.68	-12.20	-12.51	-12.57	-12.58	-12.58	-12.58	-12.58	-12.58	-12.58	-12.58	-12.58	-12.58	-12.58	-6.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	1.95	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
Per unit benefit	Rs/Unit	5.78	2.43	-0.08	-0.27	-0.31	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.04	0.03
Tax Benefit Levelised		11.93																																		
Electricity Generation (Levelised)		3.72																																		
<b>Levelised benefit</b>	<b>0.32</b>	<b>Rs/Unit</b>																																		

Small Hydro: Assumptions Parameters					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Other States
					Less than 5 MW
1	Power Generation	Capacity	Installed Power Generation Capacity Capacity Utilization Factor Auxiliary Consumption Useful Life	MW % % Years	1 30% 1% 35
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	629.662
3	Sources of Fund	Debt: Equity	Tariff Period	Years	35
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	440.763
			Total Equity Amount	Rs Lacs	188.899
		Debt Component	Loan Amount	Rs Lacs	440.76
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	12
			Intrest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	188.90
			Normative ROE (Post-tax)		16%
			Return on Equity for first 10 years	% p.a	20%
			Return on Equity 11th year onwards	% p.a	24.00%
			Weighted average of ROE		22.86%
			Discount Rate		10.81%
4	Financial Assumptions		Income Tax	%	32.445%
		Depreciation	Depreciation Rate for first 12 years	%	5.83%
			Depreciation Rate 13th year onwards	%	0.87%
5	Working Capital	For Fixed Charges		Months	1
		O&M Charges		Months	15%
		Maintenance Spare	(% of O&M expenses)	Months	2
		Receivables for Debtors			
		Intrest On Working Capital		%	13.20%
6	Operation & Maintenance	O&M Expenses (2014-15)		Rs Lacs	22.35
		Total O & M Expenses Escalation		%	5.72%
		O&M Expenses (2013-14)			21.14

Determination of Tariff Component:																																					
Units Generation	Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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	
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	
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
O&M Expenses	Rs Lakh		22.35	23.63	24.98	26.41	27.92	29.52	31.20	32.99	34.88	36.87	38.98	41.21	43.57	46.06	48.69	51.48	54.42	57.54	60.83	64.31	67.98	71.87	75.98	80.33	84.92	89.78	94.92	100.35	106.09	112.16	118.57	125.35	132.52	140.10	148.12
Depreciation	Rs Lakh		36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	36.71	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49
Interest on term loan	Rs Lakh		53.64	48.98	44.32	39.65	34.99	30.32	25.66	20.99	16.33	11.66	7.00	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Cap	Rs Lakh		4.09	4.05	4.02	3.99	3.97	3.95	3.94	3.93	3.93	3.93	4.11	4.12	3.50	3.63	3.77	3.92	4.08	4.25	4.43	4.61	4.81	5.02	5.25	5.48	5.73	5.99	6.27	6.56	6.87	7.20	7.54	7.91	8.30	8.71	9.14
Return on Equity	Rs Lakh		37.78	37.78	37.78	37.78	37.78	37.78	37.78	37.78	37.78	37.78	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34	45.34
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>154.57</b>	<b>151.15</b>	<b>147.80</b>	<b>144.54</b>	<b>141.36</b>	<b>138.28</b>	<b>135.29</b>	<b>132.40</b>	<b>129.62</b>	<b>126.95</b>	<b>123.13</b>	<b>129.71</b>	<b>97.88</b>	<b>100.51</b>	<b>103.29</b>	<b>106.22</b>	<b>109.33</b>	<b>112.61</b>	<b>116.08</b>	<b>119.74</b>	<b>123.62</b>	<b>127.72</b>	<b>132.05</b>	<b>136.63</b>	<b>141.47</b>	<b>146.59</b>	<b>152.01</b>	<b>157.73</b>	<b>163.78</b>	<b>170.18</b>	<b>176.94</b>	<b>184.09</b>	<b>191.64</b>	<b>199.63</b>	<b>208.08</b>
Levillised tariff corresponding to Useful life																																					
Per Unit Cost of Gene	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
O&M expn	Rs/kWh	<b>1.51</b>	0.86	0.91	0.96	1.02	1.07	1.13	1.20	1.27	1.34	1.42	1.50	1.58	1.67	1.77	1.87	1.98	2.09	2.21	2.34	2.47	2.61	2.76	2.92	3.09	3.26	3.45	3.65	3.86	4.08	4.31	4.56	4.82	5.09	5.39	5.69
Depreciation	Rs/kWh	<b>1.08</b>	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	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	<b>0.94</b>	2.06	1.88	1.70	1.52	1.34	1.17	0.99	0.81	0.63	0.45	0.27	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	<b>0.16</b>	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.16	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.28	0.29	0.30	0.32	0.33	0.35
RoE	Rs/kWh	<b>1.55</b>	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74
<b>Total COG</b>	<b>Rs/kWh</b>	<b>5.25</b>	<b>5.94</b>	<b>5.81</b>	<b>5.68</b>	<b>5.56</b>	<b>5.43</b>	<b>5.31</b>	<b>5.20</b>	<b>5.09</b>	<b>4.98</b>	<b>4.88</b>	<b>5.08</b>	<b>4.99</b>	<b>3.76</b>	<b>3.86</b>	<b>3.97</b>	<b>4.08</b>	<b>4.20</b>	<b>4.33</b>	<b>4.46</b>	<b>4.60</b>	<b>4.75</b>	<b>4.91</b>	<b>5.08</b>	<b>5.25</b>	<b>5.44</b>	<b>5.63</b>	<b>5.84</b>	<b>6.06</b>	<b>6.30</b>	<b>6.54</b>	<b>6.80</b>	<b>7.08</b>	<b>7.37</b>	<b>7.67</b>	<b>8.00</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085	0.077	0.069	0.063	0.057	0.051	0.046	0.042	0.037	0.034	0.031
<b>Levillised Tariff</b>	<b>5.25</b>	<b>Rs/Unit</b>																																			



Determination of Accelerated Depreciation																																				
Depreciation amount		90%																																		
Book Depreciation rate		5.28%																																		
Tax Depreciation rate		80%																																		
Additional depreciation		20.00%																																		
Income Tax (Normal Rates)		32.445%																																		
Capital Cost		629.7																																		
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	26	27	28	29	30	31	32	33	34	35
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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation	Rs Lakh	16.62	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	33.25	18.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Accelerated Depreciation																																				
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Accelerated Deprn.	Rs Lakh	314.83	283.35	25.19	5.04	1.01	0.20	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	298.21	250.10	-8.06	-28.21	-32.24	-33.04	-33.21	-33.24	-33.24	-33.25	-33.25	-33.25	-33.25	-33.25	-33.25	-33.25	-18.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tax Benefit	Rs Lakh	96.75	81.15	-2.61	-9.15	-10.46	-10.72	-10.77	-10.78	-10.79	-10.79	-10.79	-10.79	-10.79	-10.79	-10.79	-10.79	-5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	1.30	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	
Per unit benefit	Rs/Unit	7.44	3.12	-0.10	-0.35	-0.40	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.04	
Tax Benefit Levellised		10.23																																		
Electricity Generation (Levellised)		2.48																																		
Levellised benefit		0.41	Rs/Unit																																	

Small Hydro: Assumptions Parameters					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Other States
					5 MW to 25 MW
1	Power Generation	Capacity	Installed Power Generation Capacity Capacity Utilization Factor Auxiliary Consumption Useful Life	MW % % Years	1 30% 1% 35
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	577.191
3	Sources of Fund	<u>Debt: Equity</u>  <u>Debt Component</u>  <u>Equity Component</u>	Tariff Period  Debt Equity Total Debt Amount Total Equity Amount  Loan Amount Moratorium Period Repayment Period(incld Moratorium) Intrest Rate  Equity amount Normative ROE (Post-tax) Return on Equity for first 10 years  Return on Equity 11th year onwards Weighted average of ROE Discount Rate	Years  % % Rs Lacs Rs Lacs  Rs Lacs years years %  Rs Lacs % p.a % p.a % p.a %	13  70% 30% 404.034 173.157  404.03 0 12 12.70%  173.16 16% 20%  24.00% 22.86% 10.81%
4	Financial Assumptions	<u>Depreciation</u>	Income Tax  Depreciation Rate for first 12 years Depreciation Rate 13th year onwards	%  % %	32.445%  5.83% 0.87%
5	Working Capital	<u>For Fixed Charges</u> O&M Charges Maintenance Spare Receivables for Debtors  Intrest On Working Capital	(% of O&M exepenses)	Months  Months  %	1 15% 2 13.20%
6	Operation & Maintenance	O&M Expenses (2014-15) <u>Total O &amp; M Expenses Escalation</u> O&M Expenses (2013-14)		Rs Lacs %	15.65 5.72% 14.80

Determination of Tariff Component:																																					
Units Generation	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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	
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	
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
O&M Expenses	Rs Lakh		15.65	16.54	17.49	18.49	19.55	20.66	21.85	23.10	24.42	25.81	27.29	28.85	30.50	32.24	34.09	36.04	38.10	40.28	42.58	45.02	47.60	50.32	53.20	56.24	59.46	62.86	66.45	70.25	74.27	78.52	83.01	87.76	92.78	98.09	103.70
Depreciation	Rs Lakh		33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	33.65	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	
Interest on term loan	Rs Lakh		49.17	44.90	40.62	36.35	32.07	27.79	23.52	19.24	14.97	10.69	6.41	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Cap	Rs Lakh		3.49	3.44	3.39	3.35	3.31	3.28	3.24	3.22	3.19	3.17	3.31	3.30	2.69	2.79	2.89	2.99	3.10	3.22	3.35	3.48	3.62	3.76	3.92	4.08	4.26	4.44	4.64	4.84	5.06	5.29	5.53	5.79	6.06	6.34	6.65
Return on Equity	Rs Lakh		34.63	34.63	34.63	34.63	34.63	34.63	34.63	34.63	34.63	34.63	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	41.56	
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>136.59</b>	<b>133.16</b>	<b>129.79</b>	<b>126.47</b>	<b>123.21</b>	<b>120.02</b>	<b>116.89</b>	<b>113.83</b>	<b>110.85</b>	<b>107.95</b>	<b>112.22</b>	<b>109.49</b>	<b>79.78</b>	<b>81.62</b>	<b>83.56</b>	<b>85.62</b>	<b>87.79</b>	<b>90.09</b>	<b>92.52</b>	<b>95.09</b>	<b>97.80</b>	<b>100.67</b>	<b>103.70</b>	<b>106.91</b>	<b>110.30</b>	<b>113.88</b>	<b>117.67</b>	<b>121.68</b>	<b>125.92</b>	<b>130.39</b>	<b>135.13</b>	<b>140.13</b>	<b>145.42</b>	<b>151.02</b>	<b>156.93</b>
Levillised tariff corresponding to Useful life																																					
Per Unit Cost of Gene	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
O&M expn	Rs/kWh	<b>1.06</b>	0.60	0.64	0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24	1.31	1.39	1.46	1.55	1.64	1.73	1.83	1.93	2.04	2.16	2.29	2.42	2.55	2.70	2.85	3.02	3.19	3.37	3.57	3.77	3.99
Depreciation	Rs/kWh	<b>0.99</b>	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	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	<b>0.86</b>	1.89	1.73	1.56	1.40	1.23	1.07	0.90	0.74	0.58	0.41	0.25	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	<b>0.13</b>	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.13	0.13	0.10	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.22	0.23	0.24	0.26
RoE	Rs/kWh	<b>1.42</b>	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
<b>Total COG</b>	<b>Rs/kWh</b>	<b>4.47</b>	<b>5.25</b>	<b>5.12</b>	<b>4.99</b>	<b>4.86</b>	<b>4.74</b>	<b>4.61</b>	<b>4.49</b>	<b>4.38</b>	<b>4.26</b>	<b>4.15</b>	<b>4.31</b>	<b>4.21</b>	<b>3.07</b>	<b>3.14</b>	<b>3.21</b>	<b>3.29</b>	<b>3.37</b>	<b>3.46</b>	<b>3.56</b>	<b>3.65</b>	<b>3.76</b>	<b>3.87</b>	<b>3.99</b>	<b>4.11</b>	<b>4.24</b>	<b>4.38</b>	<b>4.52</b>	<b>4.68</b>	<b>4.84</b>	<b>5.01</b>	<b>5.19</b>	<b>5.39</b>	<b>5.59</b>	<b>5.80</b>	<b>6.03</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085	0.077	0.069	0.063	0.057	0.051	0.046	0.042	0.037	0.034	0.031
<b>Levillised Tariff</b>	<b>4.47</b>	<b>Rs/Unit</b>																																			

Determination of Accelerated Depreciation																																				
Depreciation amount		90%																																		
Book Depreciation rate		5.28%																																		
Tax Depreciation rate		80%																																		
Additional depreciation		20.00%																																		
Income Tax (Normal Rates)		32.445%																																		
Capital Cost		577.2																																		
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	26	27	28	29	30	31	32	33	34	35
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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Book Depreciation	Rs Lakh	15.24	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	16.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																																				
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Accelerated Depn.	Rs Lakh	288.60	259.74	23.09	4.62	0.92	0.18	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	273.36	229.26	-7.39	-25.86	-29.55	-30.29	-30.44	-30.47	-30.47	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-16.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tax Benefit	Rs Lakh	88.69	74.38	-2.40	-8.39	-9.59	-9.83	-9.88	-9.89	-9.89	-9.89	-9.89	-9.89	-9.89	-9.89	-9.89	-9.89	-9.89	-5.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Energy generation	MU	1.30	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	
Per unit benefit	Rs/Unit	6.82	2.86	-0.09	-0.32	-0.37	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.04	
Tax Benefit Levellised		9.38																																		
Electricity Generation (Levellised)		2.48																																		
<b>Levellised benefit</b>	<b>0.38</b>	<b>Rs/Unit</b>																																		

## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilis	%	10%
			Auxillary Consumption after stabilis	%	10%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablizat	%	70%
			PLF(second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amount	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period(inclld Moratoriu	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years	%	24.00%
			Weighted average of ROE	%	22.00%
			Discount Rate (equiv. to WACC)	%	10.81%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation	Depreciation Rate(power plant)	%
				Depreciation Rate 13th year onward	%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare ( % of O&M exepenses)		15%
		Receivables for Debtors	Months	2	
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stablization Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	2747.59
			GCV - Biomass	Kcal/kg	3300
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82	
		O & M Expenses Escalation	%	5.72%	
		O&M Expenses (2013-14)	Rs Lacs	25.37	

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU		0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU		5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		189.63	245.07	257.32	270.18	283.69	297.88	312.77	328.41	344.83	362.07	380.18	399.19	419.15	440.10	462.11	485.21	509.47	534.95	561.69	589.78
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh		27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21
Interest on term loan	Rs Lakh		39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		16.38	20.13	20.96	21.85	22.78	23.76	24.80	25.89	27.04	28.26	29.67	31.02	32.13	33.70	35.36	37.10	38.93	40.85	42.87	44.99
Return on Equity	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>138.16</b>	<b>139.99</b>	<b>138.99</b>	<b>138.13</b>	<b>137.42</b>	<b>136.86</b>	<b>136.46</b>	<b>136.24</b>	<b>136.20</b>	<b>136.35</b>	<b>142.43</b>	<b>143.00</b>	<b>129.70</b>	<b>134.27</b>	<b>139.08</b>	<b>144.16</b>	<b>149.53</b>	<b>155.18</b>	<b>161.15</b>	<b>167.45</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levelling	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	5.21	3.70	3.89	4.08	4.28	4.50	4.72	4.96	5.21	5.47	5.74	6.03	6.33	6.65	6.98	7.33	7.69	8.08	8.48	8.91	9.35
O&M expn	Rs/kWh	0.64	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	0.40	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Int. on term loan	Rs/kWh	0.34	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.41	0.32	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.53	0.56	0.59	0.62	0.65	0.68	0.71
RoE	Rs/kWh	0.48	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.48</b>	<b>6.40</b>	<b>6.10</b>	<b>6.28</b>	<b>6.47</b>	<b>6.68</b>	<b>6.89</b>	<b>7.12</b>	<b>7.37</b>	<b>7.63</b>	<b>7.90</b>	<b>8.29</b>	<b>8.60</b>	<b>8.70</b>	<b>9.11</b>	<b>9.53</b>	<b>9.98</b>	<b>10.45</b>	<b>10.94</b>	<b>11.46</b>	<b>12.01</b>
Levelling Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.70	Rs/Kwh																				
Levelling Tariff (Fixed)	2.27	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>	<b>5.97</b>	<b>Rs/Kwh</b>																				

Determination of Accelerated Depreciation for Biomass Power Project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional depreciation	20.00%																				
Income Tax (Normal Rates)	32.45%																				
Capital Cost	466.649																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.14</b>	<b>(Rs/kWh)</b>																			

## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilis	%	10%
			Auxillary Consumption after stabilis	%	10%
			PLF (Stablization for 6 months)	%	60%
			PLF (during first year after Stablizat	%	70%
			PLF (second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amount	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period (incl'd Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years	%	24.00%
Weighted average of ROE	%	22.00%			
Discount Rate (equiv. to WACC)	%	10.81%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation	Depreciation Rate (power plant)	%
		Depreciation Rate 13th year onwards		%	2.505%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare ( % of O&M exepenses)		15%
		Receivables for Debtors	Months	2	
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stablization Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	3127.40
			GCV - Biomass	Kcal/kg	3300
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82	
		O & M Expenses Escalation	%	5.72%	
		O&M Expenses (2013-14)	Rs Lacs	25.37	



Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gross Generation	MU			5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	
Auxiliary Consumption	MU			0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
Net Generation	MU			5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			215.85	278.94	292.89	307.53	322.91	339.05	356.01	373.81	392.50	412.12	432.73	454.37	477.08	500.94	525.99	552.28	579.90	608.89	639.34	671.31
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh			27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh			39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			18.15	22.41	23.36	24.37	25.43	26.54	27.72	28.96	30.26	31.64	33.21	34.74	36.04	37.81	39.67	41.62	43.68	45.84	48.11	50.49
Return on Equity	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>139.93</b>	<b>142.27</b>	<b>141.39</b>	<b>140.65</b>	<b>140.06</b>	<b>139.64</b>	<b>139.38</b>	<b>139.31</b>	<b>139.42</b>	<b>139.73</b>	<b>145.98</b>	<b>146.73</b>	<b>133.61</b>	<b>138.37</b>	<b>143.39</b>	<b>148.69</b>	<b>154.28</b>	<b>160.17</b>	<b>166.39</b>	<b>172.95</b>
Levallised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levllised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh		<b>5.93</b>	4.21	4.42	4.64	4.88	5.12	5.38	5.64	5.93	6.22	6.53	6.86	7.20	7.56	7.94	8.34	8.76	9.19	9.65	10.14	10.64
O&M expn	Rs/kWh		<b>0.64</b>	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh		<b>0.40</b>	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh		<b>0.34</b>	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh		<b>0.46</b>	0.35	0.36	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.57	0.60	0.63	0.66	0.69	0.73	0.76	0.80
RoE	Rs/kWh		<b>0.48</b>	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>		<b>8.25</b>	<b>6.94</b>	<b>6.68</b>	<b>6.89</b>	<b>7.11</b>	<b>7.34</b>	<b>7.59</b>	<b>7.85</b>	<b>8.14</b>	<b>8.43</b>	<b>8.75</b>	<b>9.18</b>	<b>9.53</b>	<b>9.68</b>	<b>10.14</b>	<b>10.61</b>	<b>11.11</b>	<b>11.64</b>	<b>12.19</b>	<b>12.77</b>	<b>13.39</b>
Levllised Tariff		Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	4.21	Rs/Kwh																					
Levllised Tariff (Fixed)	2.32	Rs/Kwh																					
<b>Applicable Tariff (FY2013-14)</b>	<b>6.53</b>	<b>Rs/Kwh</b>																					

**Determination of Accelerated Depreciation for Biomass Power Project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional depreciation	20.00%
Income Tax (Normal Rates)	32.45%
Capital Cost	466.649

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15

<b>Levellised benefit</b>	<b>0.14</b>	<b>(Rs/kWh)</b>
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## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF (Stabilization for 6 months)	%	60%	
			PLF (during first year after Stabilization)	%	70%	
			PLF (second year onwards)	%	80%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	326.654	
			Total Equity Amount	Rs Lacs	139.995	
		Debt Component	Loan Amount	Rs Lacs	326.654	
			Moratorium Period	years	0	
			Repayment Period (incl. Moratorium)	years	12	
			Interest Rate	%	12.70%	
		Equity Component	Equity amount	Rs Lacs	139.995	
			Return on Equity for first 10 years	% p.a	20.00%	
Return on Equity after 10 years	%		24.00%			
Weighted average of ROE	%		22.00%			
	Discount Rate (equiv. to WACC)	%	10.81%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate (power plant)	%	5.830%
				Depreciation Rate 13th year onwards	%	2.505%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare (% of O&M expenses)		15%	
		For Variable Charges	Receivables for Debtors	Months	2	
			Biomass Stock	Months	4	
		Interest On Working Capital	%	13.20%		
		6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh
During Stabilization Period	Kcal/kwh				4000	
Biomass	Base Price			Rs/T	3198.61	
	GCV - Biomass			Kcal/kg	3300	
	Biomass Price Escalation Factor			%	5.00%	
7	Operation & Maintenance	O&M Expenses	O&M Expenses (2014-15)	Rs Lacs	26.82	
			O & M Expenses Escalation	%	5.72%	
			O&M Expenses (2013-14)	Rs Lacs	25.37	

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU		0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU		5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		220.76	285.29	299.56	314.54	330.26	346.78	364.11	382.32	401.44	421.51	442.58	464.71	487.95	512.34	537.96	564.86	593.10	622.76	653.90	686.59
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh		27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh		39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		18.48	22.84	23.81	24.84	25.92	27.06	28.26	29.53	30.86	32.27	33.88	35.44	36.77	38.58	40.48	42.47	44.57	46.77	49.09	51.52
Return on Equity	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>140.26</b>	<b>142.70</b>	<b>141.84</b>	<b>141.12</b>	<b>140.56</b>	<b>140.16</b>	<b>139.93</b>	<b>139.88</b>	<b>140.02</b>	<b>140.37</b>	<b>146.65</b>	<b>147.42</b>	<b>134.34</b>	<b>139.14</b>	<b>144.20</b>	<b>149.54</b>	<b>155.17</b>	<b>161.11</b>	<b>167.37</b>	<b>173.98</b>
Levelling tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levelling	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>6.06</b>	4.31	4.52	4.75	4.99	5.24	5.50	5.77	6.06	6.36	6.68	7.02	7.37	7.74	8.12	8.53	8.96	9.40	9.87	10.37	10.89
O&M expn	Rs/kWh	<b>0.64</b>	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	<b>0.40</b>	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	<b>0.34</b>	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.47</b>	0.36	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.58	0.61	0.64	0.67	0.71	0.74	0.78	0.82
RoE	Rs/kWh	<b>0.48</b>	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.39</b>	<b>7.04</b>	<b>6.79</b>	<b>7.00</b>	<b>7.22</b>	<b>7.46</b>	<b>7.72</b>	<b>7.99</b>	<b>8.28</b>	<b>8.58</b>	<b>8.91</b>	<b>9.34</b>	<b>9.71</b>	<b>9.87</b>	<b>10.33</b>	<b>10.82</b>	<b>11.33</b>	<b>11.86</b>	<b>12.43</b>	<b>13.02</b>	<b>13.64</b>
Levelling Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	4.31	Rs/Kwh																				
Levelling Tariff (Fixed)	2.33	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>	<b>6.63</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for Biomass Power Project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional depreciation	20.00%
Income Tax (Normal Rates)	32.45%
Capital Cost	466.649

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00	
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00	
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	

**Levellised benefit**      0.14      (Rs/kWh)

## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF (Stabilisation for 6 months)	%	60%
			PLF (during first year after Stabilisation)	%	70%
			PLF (second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amount	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period (incl. Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
Return on Equity after 10 years	%		24.00%		
Weighted average of ROE	%		22.00%		
Discount Rate (equiv. to WACC)	%	10.81%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation	Depreciation Rate (power plant)	%
		Depreciation Rate 13th year onwards		%	2.505%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare (part of O&M expenses)		15%
		Receivables for Debtors	Months	2	
		For Variable Charges	Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stabilisation Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	3271.01
			GCV - Biomass	Kcal/kg	3300
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82	
		O & M Expenses Escalation	%	5.72%	
		O&M Expenses (2013-14)	Rs Lacs	25.37	

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU			5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU			0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU			5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost		Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			225.76	291.75	306.34	321.65	337.74	354.62	372.36	390.97	410.52	431.05	452.60	475.23	498.99	523.94	550.14	577.64	606.53	636.85	668.70	702.13
Fixed Cost		Unit	Year→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh			27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh			39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			18.82	23.28	24.27	25.32	26.43	27.59	28.82	30.11	31.48	32.91	34.55	36.15	37.52	39.36	41.30	43.34	45.48	47.72	50.09	52.57
Return on Equity	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>140.60</b>	<b>143.14</b>	<b>142.30</b>	<b>141.60</b>	<b>141.06</b>	<b>140.69</b>	<b>140.49</b>	<b>140.46</b>	<b>140.64</b>	<b>141.01</b>	<b>147.32</b>	<b>148.13</b>	<b>135.09</b>	<b>139.92</b>	<b>145.02</b>	<b>150.40</b>	<b>156.08</b>	<b>162.06</b>	<b>168.37</b>	<b>175.03</b>
Levallised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levllised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>6.20</b>		4.41	4.63	4.86	5.10	5.35	5.62	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
O&M expn	Rs/kWh	<b>0.64</b>		0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	<b>0.40</b>		0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	<b>0.34</b>		0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.48</b>		0.37	0.37	0.38	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.55	0.57	0.59	0.62	0.65	0.69	0.72	0.76	0.79	0.83
RoE	Rs/kWh	<b>0.48</b>		0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.54</b>		<b>7.15</b>	<b>6.90</b>	<b>7.11</b>	<b>7.34</b>	<b>7.59</b>	<b>7.85</b>	<b>8.13</b>	<b>8.43</b>	<b>8.74</b>	<b>9.07</b>	<b>9.51</b>	<b>9.88</b>	<b>10.05</b>	<b>10.53</b>	<b>11.02</b>	<b>11.54</b>	<b>12.09</b>	<b>12.67</b>	<b>13.27</b>	<b>13.91</b>
Levllised Tariff		Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	4.41	Rs/Kwh																					
Levllised Tariff (Fixed)	2.33	Rs/Kwh																					
<b>Applicable Tariff (FY2013-14)</b>	<b>6.74</b>	<b>Rs/Kwh</b>																					

Determination of Accelerated Depreciation for Biomass Power Project																						
Depreciation amount	90%																					
Book Depreciation rate	5.28%																					
Tax Depreciation rate	80%																					
Additional depreciation	20.00%																					
Income Tax (Normal Rates)	32.45%																					
Capital Cost	466.649																					
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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%	
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00	
<b>Accelerated Depreciation</b>																						
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Accelerated Depm.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.14 (Rs/kWh)</b>																					



## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions		
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1		
			Auxillary Consumption during stabilisation	%	10%		
			Auxillary Consumption after stabilisation	%	10%		
			PLF (Stabilization for 6 months)	%	60%		
			PLF (during first year after Stabilization)	%	70%		
			PLF (second year onwards)	%	80%		
			Useful Life	Years	20		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649		
3	Financial Assumptions	Debt: Equity	Debt	%	70%		
			Equity	%	30%		
			Total Debt Amount	Rs Lacs	326.654		
			Total Equity Amount	Rs Lacs	139.995		
			Debt Component		Loan Amount	Rs Lacs	326.654
					Moratorium Period	years	0
				Repayment Period (incl. Moratorium)	years	12	
				Interest Rate	%	12.70%	
		Equity Component		Equity amount	Rs Lacs	139.995	
				Return on Equity for first 10 years	% p.a	20.00%	
				Return on Equity after 10 years	%	24.00%	
				Weighted average of ROE	%	22.00%	
		Discount Rate (equiv. to WACC)	%	10.81%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%		
		Depreciation	Depreciation Rate (power plant)	%	5.830%		
			Depreciation Rate 13th year onwards	%	2.505%		
5	Working Capital	For Fixed Charges	O&M Charges	Months	1		
		Maintenance Spare	(% of O&M expenses)		15%		
		Receivables for Debtors		Months	2		
		For Variable Charges	Biomass Stock	Months	4		
		Interest On Working Capital		%	13.20%		
		6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
During Stabilization Period	Kcal/kwh				4000		
Biomass	Base Price			Rs/T	2729.79		
	GCV - Biomass			Kcal/kg	3300		
	Biomass Price Escalation Factor				5.00%		
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82			
		O & M Expenses Escalation	%	5.72%			
		O&M Expenses (2013-14)	Rs Lacs	25.37			

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU		0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU		5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		188.41	243.48	255.65	268.43	281.86	295.95	310.75	326.28	342.60	359.73	377.71	396.60	416.43	437.25	459.11	482.07	506.17	531.48	558.06	585.96
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh		27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh		39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		16.30	20.02	20.85	21.73	22.65	23.63	24.66	25.75	26.89	28.10	29.50	30.84	31.94	33.51	35.16	36.89	38.70	40.61	42.62	44.73
Return on Equity	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>138.08</b>	<b>139.88</b>	<b>138.88</b>	<b>138.01</b>	<b>137.29</b>	<b>136.73</b>	<b>136.33</b>	<b>136.10</b>	<b>136.05</b>	<b>136.20</b>	<b>142.27</b>	<b>142.83</b>	<b>129.52</b>	<b>134.07</b>	<b>138.88</b>	<b>143.95</b>	<b>149.30</b>	<b>154.95</b>	<b>160.91</b>	<b>167.19</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levallised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.18</b>	3.68	3.86	4.05	4.26	4.47	4.69	4.93	5.17	5.43	5.70	5.99	6.29	6.60	6.93	7.28	7.64	8.03	8.43	8.85	9.29
O&M expn	Rs/kWh	<b>0.64</b>	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	<b>0.40</b>	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	<b>0.34</b>	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.41</b>	0.32	0.32	0.33	0.34	0.36	0.37	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.53	0.56	0.58	0.61	0.64	0.68	0.71
RoE	Rs/kWh	<b>0.48</b>	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.44</b>	<b>6.37</b>	<b>6.08</b>	<b>6.26</b>	<b>6.44</b>	<b>6.65</b>	<b>6.86</b>	<b>7.09</b>	<b>7.33</b>	<b>7.59</b>	<b>7.86</b>	<b>8.24</b>	<b>8.55</b>	<b>8.66</b>	<b>9.06</b>	<b>9.48</b>	<b>9.93</b>	<b>10.39</b>	<b>10.88</b>	<b>11.40</b>	<b>11.94</b>
Levallised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.68	Rs/Kwh																				
Levallised Tariff (Fixed)	2.27	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>	<b>5.94</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for Biomass Power Project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional depreciation	20.00%
Income Tax (Normal Rates)	32.45%
Capital Cost	466.649

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15

<b>Levellised benefit</b>	<b>0.14</b>	<b>(Rs/kWh)</b>
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## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF(Stabilization for 6 months)	%	60%
			PLF(during first year after Stabilization)	%	70%
			PLF(second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amount	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period(incl. Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
Return on Equity after 10 years	%		24.00%		
	Weighted average of ROE	%	22.00%		
	Discount Rate (equiv. to WACC)	%	10.81%		
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
		Depreciation			
			Depreciation Rate(power plant)	%	5.830%
			Depreciation Rate 13th year onwards	%	2.505%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare ( % of O&M exepenses)		15%
		Receivables for Debtors	Months	2	
		For Variable Charges			
		Biomass Stock	Months	4	
	Interest On Working Capital	%	13.20%		
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stabilization Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	2702.49
			GCV - Biomass	Kcal/kg	3300
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82	
		O & M Expenses Escalation	%	5.72%	
		O&M Expenses (2013-14)	Rs Lacs	25.37	

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU			5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU			0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU			5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Vaible Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			186.52	241.04	253.09	265.75	279.04	292.99	307.64	323.02	339.17	356.13	373.94	392.63	412.26	432.88	454.52	477.25	501.11	526.17	552.47	580.10
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh			27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh			39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			16.17	19.86	20.68	21.55	22.46	23.43	24.45	25.53	26.66	27.86	29.24	30.57	31.66	33.22	34.85	36.56	38.36	40.25	42.24	44.33
Return on Equity	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>137.95</b>	<b>139.72</b>	<b>138.70</b>	<b>137.83</b>	<b>137.10</b>	<b>136.53</b>	<b>136.12</b>	<b>135.88</b>	<b>135.82</b>	<b>135.95</b>	<b>142.01</b>	<b>142.56</b>	<b>129.23</b>	<b>133.78</b>	<b>138.57</b>	<b>143.63</b>	<b>148.96</b>	<b>154.59</b>	<b>160.53</b>	<b>166.79</b>
Levallised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levallised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.12</b>		3.64	3.82	4.01	4.21	4.42	4.65	4.88	5.12	5.38	5.65	5.93	6.23	6.54	6.86	7.21	7.57	7.95	8.34	8.76	9.20
O&M expn	Rs/kWh	<b>0.64</b>		0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	<b>0.40</b>		0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	<b>0.34</b>		0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.41</b>		0.32	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.50	0.53	0.55	0.58	0.61	0.64	0.67	0.70
RoE	Rs/kWh	<b>0.48</b>		0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.39</b>		<b>6.33</b>	<b>6.04</b>	<b>6.21</b>	<b>6.40</b>	<b>6.60</b>	<b>6.81</b>	<b>7.04</b>	<b>7.28</b>	<b>7.53</b>	<b>7.80</b>	<b>8.18</b>	<b>8.49</b>	<b>8.59</b>	<b>8.98</b>	<b>9.40</b>	<b>9.84</b>	<b>10.31</b>	<b>10.79</b>	<b>11.30</b>	<b>11.84</b>
Levallised Tariff		Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.236	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)		3.64	Rs/Kwh																				
Levallised Tariff (Fixed)		2.26	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>		<b>5.90</b>	<b>Rs/Kwh</b>																				

### Determination of Accelerated Depreciation for Biomass Power Project

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional depreciation	20.00%
Income Tax (Normal Rates)	32.45%
Capital Cost	466.649

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15

<b>Levillised benefit</b>	<b>0.14</b>	<b>(Rs/kWh)</b>
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## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilis	%	10%
			Auxillary Consumption after stabilis	%	10%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablizat	%	70%
			PLF(second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amout	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period(inclد Moratorium	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
	Return on Equity after 10 years	%	24.00%		
	Weighted average of ROE	%	22.00%		
	Discount Rate (equiv. to WACC)	%	10.81%		
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation		
		Depreciation Rate(power plant)	%	5.830%	
	Depreciation Rate 13th year onward	%	2.505%		
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare (% of O&M exepenses)		15%
		Receivables for Debtors	Months	2	
		For Variable Charges			
		Biomass Stock	Months	4	
	Interest On Working Capital	%	13.20%		
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stablization Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	2795.07
			GCV - Biomass	Kcal/kg	3300
	Biomass Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs Lacs	26.82	
		O & M Expenses Escalation	%	5.72%	
		O&M Expenses (2013-14)	Rs Lacs	25.37	

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU		0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU		5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		192.91	249.30	261.76	274.85	288.60	303.03	318.18	334.09	350.79	368.33	386.75	406.08	426.39	447.71	470.09	493.60	518.28	544.19	571.40	599.97
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh		27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh		39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		16.60	20.41	21.26	22.16	23.11	24.11	25.16	26.27	27.45	28.68	30.11	31.48	32.62	34.22	35.90	37.66	39.52	41.47	43.52	45.67
Return on Equity	Rs Lakh		28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>138.38</b>	<b>140.27</b>	<b>139.29</b>	<b>138.44</b>	<b>137.75</b>	<b>137.21</b>	<b>136.83</b>	<b>136.63</b>	<b>136.60</b>	<b>136.78</b>	<b>142.88</b>	<b>143.47</b>	<b>130.19</b>	<b>134.78</b>	<b>139.62</b>	<b>144.73</b>	<b>150.12</b>	<b>155.81</b>	<b>161.81</b>	<b>168.13</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.30</b>	3.76	3.95	4.15	4.36	4.58	4.80	5.04	5.30	5.56	5.84	6.13	6.44	6.76	7.10	7.45	7.83	8.22	8.63	9.06	9.51
O&M expn	Rs/kWh	<b>0.64</b>	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh	<b>0.40</b>	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh	<b>0.34</b>	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.42</b>	0.32	0.32	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.45	0.48	0.50	0.52	0.54	0.57	0.60	0.63	0.66	0.69	0.72
RoE	Rs/kWh	<b>0.48</b>	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.57</b>	<b>6.46</b>	<b>6.18</b>	<b>6.36</b>	<b>6.55</b>	<b>6.76</b>	<b>6.98</b>	<b>7.21</b>	<b>7.46</b>	<b>7.73</b>	<b>8.01</b>	<b>8.40</b>	<b>8.71</b>	<b>8.82</b>	<b>9.24</b>	<b>9.67</b>	<b>10.12</b>	<b>10.60</b>	<b>11.10</b>	<b>11.62</b>	<b>12.18</b>
Levillised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.76	Rs/Kwh																				
Levillised Tariff (Fixed)	2.27	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>	<b>6.04</b>	<b>Rs/Kwh</b>																				



Determination of Accelerated Depreciation for Biomass Power Project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional depreciation	20.00%																				
Income Tax (Normal Rates)	32.45%																				
Capital Cost	466.649																				
<b>Years</b> ----->	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
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%
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.14 (Rs/kWh)</b>																				

## Assumption for Biomass Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF (Stabilisation for 6 months)	%	60%
			PLF (during first year after Stabilisation)	%	70%
			PLF (second year onwards)	%	80%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	466.649
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	326.654
			Total Equity Amount	Rs Lacs	139.995
		Debt Component	Loan Amount	Rs Lacs	326.654
			Moratorium Period	years	0
			Repayment Period (incl. Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	139.995
			Return on Equity for first 10 years	% p.a	20.00%
Return on Equity after 10 years	%		24.00%		
	Weighted average of ROE	%	22.00%		
	Discount Rate (equiv. to WACC)	%	10.81%		
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
		Depreciation	Depreciation Rate (power plant)	%	5.830%
		Depreciation Rate 13th year onwards	%	2.505%	
5	Working Capital	For Fixed Charges	O&M Charges	Months	1
			Maintenance Spare (% of O&M expenses)		15%
			Receivables for Debtors	Months	2
			For Variable Charges		
			Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	4000
			During Stabilisation Period	Kcal/kwh	4000
		Biomass	Base Price	Rs/T	2938.69
			GCV - Biomass	Kcal/kg	3300
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance		O&M Expenses (2014-15)	Rs Lacs	26.82
			O & M Expenses Escalation	%	5.72%
			O&M Expenses (2013-14)	Rs Lacs	25.37

Determination of Tariff Component: Biomass Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU			5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU			0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU			5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			202.82	262.11	275.22	288.98	303.42	318.60	334.53	351.25	368.81	387.26	406.62	426.95	448.30	470.71	494.25	518.96	544.91	572.15	600.76	630.80
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			26.82	28.36	29.98	31.69	33.50	35.42	37.45	39.59	41.85	44.25	46.78	49.45	52.28	55.27	58.44	61.78	65.31	69.05	73.00	77.17
Depreciation	Rs Lakh			27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	27.21	11.69	11.69	11.69	11.69	11.69	11.69	11.69
Interest on term loan	Rs Lakh			39.76	36.30	32.84	29.39	25.93	22.47	19.01	15.56	12.10	8.64	5.19	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			17.27	21.28	22.17	23.12	24.11	25.16	26.27	27.43	28.66	29.96	31.45	32.89	34.09	35.77	37.53	39.38	41.32	43.36	45.50	47.75
Return on Equity	Rs Lakh			28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60	33.60
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>139.05</b>	<b>141.14</b>	<b>140.20</b>	<b>139.40</b>	<b>138.75</b>	<b>138.26</b>	<b>137.93</b>	<b>137.78</b>	<b>137.82</b>	<b>138.05</b>	<b>144.22</b>	<b>144.88</b>	<b>131.67</b>	<b>136.33</b>	<b>141.25</b>	<b>146.44</b>	<b>151.92</b>	<b>157.69</b>	<b>163.79</b>	<b>170.22</b>
Levillised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh		<b>5.57</b>	3.96	4.16	4.36	4.58	4.81	5.05	5.30	5.57	5.85	6.14	6.45	6.77	7.11	7.46	7.84	8.23	8.64	9.07	9.52	10.00
O&M expn	Rs/kWh		<b>0.64</b>	0.52	0.45	0.48	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.04	1.09	1.16	1.22
Depreciation	Rs/kWh		<b>0.40</b>	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Int. on term loan	Rs/kWh		<b>0.34</b>	0.78	0.58	0.52	0.47	0.41	0.36	0.30	0.25	0.19	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh		<b>0.44</b>	0.34	0.34	0.35	0.37	0.38	0.40	0.42	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.66	0.69	0.72	0.76
RoE	Rs/kWh		<b>0.48</b>	0.55	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Total COG</b>	<b>Rs/kWh</b>		<b>7.86</b>	<b>6.67</b>	<b>6.39</b>	<b>6.59</b>	<b>6.79</b>	<b>7.01</b>	<b>7.24</b>	<b>7.49</b>	<b>7.75</b>	<b>8.03</b>	<b>8.33</b>	<b>8.73</b>	<b>9.07</b>	<b>9.20</b>	<b>9.62</b>	<b>10.08</b>	<b>10.55</b>	<b>11.05</b>	<b>11.57</b>	<b>12.12</b>	<b>12.70</b>
Levillised Tariff		Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)		3.96	Rs/Kwh																				
Levillised Tariff (Fixed)		2.29	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>		<b>6.25</b>	<b>Rs/Kwh</b>																				

<b>Determination of Accelerated Depreciation for Biomass Power Project</b>																						
Depreciation amount	90%																					
Book Depreciation rate	5.28%																					
Tax Depreciation rate	80%																					
Additional depreciation	20.00%																					
Income Tax (Normal Rates)	32.45%																					
Capital Cost	466.649																					
<b>Years</b> ----->	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	
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%	
Book Depreciation	Rs Lakh	12.32	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	24.64	13.44	0.00	0.00
<b>Accelerated Depreciation</b>																						
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Depm.	Rs Lakh	233.32	209.99	18.67	3.73	0.75	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	221.00	185.35	-5.97	-20.91	-23.89	-24.49	-24.61	-24.63	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-24.64	-13.44	0.00	0.00
Tax Benefit	Rs Lakh	71.71	60.14	-1.94	-6.78	-7.75	-7.95	-7.98	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-7.99	-4.36	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	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	2.80	0.95	-0.03	-0.11	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.07	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.14 (Rs/kWh)</b>																					

					Annexure 4A
					Select State
					AP
Non Fossil Fuel based co-generation Projects					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	8.50%
			Auxillary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	%	45%
			PLF(during first year after Stablization)	%	45%
			PLF(second year onwards)	%	45%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	308.303
			Total Equity Amount	Rs Lacs	132.130
		<u>Debt Component</u>	Loan Amount	Rs Lacs	308.30
			Moratorium Period	years	0
			Repayment Period(incl'd Moratorium)	years	12
			Interest Rate	%	12.70%
		<u>Equity Component</u>	Equity amount	Rs Lacs	132.13
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years	%	24.00%
			Weighted average of ROE	%	22.00%
			Discount Rate (equiv. to WACC)	%	10.81%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
		<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
			Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15%
		Receivables for Debtors		Months	2
		<u>For Variable Charges</u>			
		Biomass Stock		Months	4
		Interest On Working Capital		%	13.20%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After Stabilisation period	Kcal/kwh	3600
			During Stabilization Period	Kcal/kwh	3600
		<u>Biomass</u>	Bagasse Price	Rs/T	1551.24
			GCV - Bagasse	Kcal/kg	2250
			Bagasse Price Escalation Factor		5.00%
	Operation & Maintenance				
		O&M Expenses (2014-15)		Rs. Lacs	17.89
		O & M Expenses Escalation		%	5.72%
7		O&M Expenses (2013-14)		Rs. Lacs	16.92

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gross Generation	MU		3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	
Auxiliary Consumption	MU		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	
Net Generation	MU		3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		9.58	9.90	10.23	10.58	10.95	11.35	11.77	12.22	12.69	13.19	13.84	14.40	14.70	15.40	16.14	16.91	17.73	18.58	19.48	20.42
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>117.10</b>	<b>115.17</b>	<b>113.32</b>	<b>111.55</b>	<b>109.87</b>	<b>108.29</b>	<b>106.80</b>	<b>105.41</b>	<b>104.13</b>	<b>102.96</b>	<b>107.32</b>	<b>106.40</b>	<b>92.31</b>	<b>95.01</b>	<b>97.85</b>	<b>100.86</b>	<b>104.03</b>	<b>107.38</b>	<b>110.91</b>	<b>114.64</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>3.82</b>	2.71	2.85	2.99	3.14	3.30	3.46	3.64	3.82	4.01	4.21	4.42	4.64	4.87	5.11	5.37	5.64	5.92	6.22	6.53	6.85
O&M expn	Rs/kWh	<b>0.74</b>	0.50	0.52	0.55	0.59	0.62	0.65	0.69	0.73	0.77	0.82	0.86	0.91	0.97	1.02	1.08	1.14	1.21	1.28	1.35	1.43
Depreciation	Rs/kWh	<b>0.64</b>	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Int. on term loan	Rs/kWh	<b>0.53</b>	1.04	0.95	0.86	0.77	0.68	0.59	0.50	0.41	0.32	0.23	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.34</b>	0.27	0.27	0.28	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.38	0.40	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.57
RoE	Rs/kWh	<b>0.77</b>	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
<b>Total COG</b>	<b>Rs/kWh</b>	<b>6.83</b>	<b>5.96</b>	<b>6.04</b>	<b>6.13</b>	<b>6.23</b>	<b>6.34</b>	<b>6.46</b>	<b>6.60</b>	<b>6.74</b>	<b>6.89</b>	<b>7.06</b>	<b>7.39</b>	<b>7.59</b>	<b>7.43</b>	<b>7.75</b>	<b>8.08</b>	<b>8.44</b>	<b>8.81</b>	<b>9.19</b>	<b>9.60</b>	<b>10.03</b>
Levillised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	2.71	Rs/Kwh																				
Levillised Tariff (Fixed)	3.01	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>5.73</b>	<b>Rs/Kwh</b>																				

Determination of Accelerated Depreciation for non-fossil fuel based co-generation project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost Rs. Lakh	440.243																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	1.80	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
Per unit benefit	Rs/Unit	3.75	1.57	-0.05	-0.18	-0.20	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.11	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.23</b>	<b>(Rs/kWh)</b>																			

					Annexure 4B
					Select State
					AP
Non Fossil Fuel based co-generation Projects					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	8.50%
			Auxillary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	%	45%
			PLF(during first year after Stablization)	%	45%
			PLF(second year onwards)	%	45%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	308.303
			Total Equity Amout	Rs Lacs	132.130
		Debt Component	Loan Amount	Rs Lacs	308.30
			Moratorium Period	years	0
			Repayment Period(inclnd Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	132.13
			Return on Equity for first 10 years	% p.a	20.00%
Return on Equity after 10 years	%		24.00%		
Weighted average of ROE	%		22.00%		
Discount Rate (equiv. to WACC)	%	10.81%			
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation	Depreciation Rate(power plant)	%
		Depreciation Rate 13th year onwards		%	2.51%
5	Working Capital	For Fixed Charges O&M Charges Maintenance Spare Receivables for Debtors For Variable Charges Biomass Stock Interest On Working Capital	(% of O&M exepenses)	Months	1
				Months	15%
				Months	2
				Months	4
				%	13.20%
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	3600
			During Stablization Period	Kcal/kwh	3600
		Biomass	Bagasse Price	Rs/T	1551.24
			GCV - Bagasse	Kcal/kg	2250
			Bagasse Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15) O & M Expenses Escalation O&M Expenses (2013-14)		Rs. Lacs	17.89
				%	5.72%
				Rs. Lacs	16.92



Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
Auxiliary Consumption	MU		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Net Generation	MU		4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
<b>Fixed Cost</b>																						
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		14.04	14.58	15.14	15.74	16.37	17.04	17.75	18.49	19.28	20.11	21.10	22.03	22.71	23.81	24.97	26.18	27.46	28.80	30.21	31.69
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>121.56</b>	<b>119.85</b>	<b>118.24</b>	<b>116.72</b>	<b>115.29</b>	<b>113.98</b>	<b>112.77</b>	<b>111.68</b>	<b>110.71</b>	<b>109.88</b>	<b>114.58</b>	<b>114.03</b>	<b>100.32</b>	<b>103.42</b>	<b>106.68</b>	<b>110.13</b>	<b>113.76</b>	<b>117.59</b>	<b>121.64</b>	<b>125.90</b>
<b>Levillised tariff corresponding to Useful life</b>																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.43</b>	3.86	4.05	4.25	4.47	4.69	4.92	5.17	5.43	5.70	5.99	6.28	6.60	6.93	7.28	7.64	8.02	8.42	8.84	9.29	9.75
O&M expn	Rs/kWh	<b>0.63</b>	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.62	0.66	0.69	0.73	0.78	0.82	0.87	0.92	0.97	1.03	1.08	1.15	1.21
Depreciation	Rs/kWh	<b>0.54</b>	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Int. on term loan	Rs/kWh	<b>0.45</b>	0.88	0.81	0.73	0.65	0.58	0.50	0.42	0.35	0.27	0.19	0.12	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.44</b>	0.33	0.34	0.36	0.37	0.39	0.40	0.42	0.44	0.45	0.47	0.50	0.52	0.53	0.56	0.59	0.62	0.65	0.68	0.71	0.75
RoE	Rs/kWh	<b>0.65</b>	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.14</b>	<b>6.72</b>	<b>6.87</b>	<b>7.04</b>	<b>7.21</b>	<b>7.40</b>	<b>7.61</b>	<b>7.82</b>	<b>8.06</b>	<b>8.31</b>	<b>8.57</b>	<b>8.98</b>	<b>9.28</b>	<b>9.29</b>	<b>9.71</b>	<b>10.15</b>	<b>10.61</b>	<b>11.10</b>	<b>11.61</b>	<b>12.15</b>	<b>12.71</b>
<b>Levillised Tariff</b>																						
Levillised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.86	Rs/Kwh																				
Levillised Tariff (Fixed)	2.71	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.56</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for non-fossil fuel based co-generation project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost Rs. Lakh	440.243

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Accelerated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00	
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00	
Net Energy generation	MU	2.12	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	
Per unit benefit	Rs/Unit	3.18	1.34	-0.04	-0.15	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	

**Levellised benefit 0.20 (Rs/kWh)**

Annexure 4C					
Select State				Maharashtra	
Non Fossil Fuel based co-generation Projects					
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	8.50%
			Auxillary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablization)	%	60%
			PLF(second year onwards)	%	60%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	308.303
			Total Equity Amout	Rs Lacs	132.130
		<u>Debt Component</u>	Loan Amount	Rs Lacs	308.30
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	12
			Interest Rate	%	12.70%
		<u>Equity Component</u>	Equity amount	Rs Lacs	132.13
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years	%	24.00%
			Weighted average of ROE	%	22.00%
			Discount Rate (equiv. to WACC)	%	10.81%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
		<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
			Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	<u>For Fixed Charges</u>			
		O&M Charges	(% of O&M exepenses)	Months	1
		Maintenance Spare			15%
		Receivables for Debtors		Months	2
		<u>For Variable Charges</u>			
Biomass Stock		Months	4		
Interest On Working Capital		%	13.20%		
6	Fuel Related Assumptions	<u>Heat Rate</u>	After Stabilisation period	Kcal/kwh	3600
			During Stablization Period	Kcal/kwh	3600
		<u>Biomass</u>	Bagasse Price	Rs/T	2174.34
			GCV - Bagasse	Kcal/kg	2250
			Bagasse Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)		Rs. Lacs	17.89
		<u>O &amp; M Expenses Escalation</u>		%	5.72%
		O&M Expenses (2013-14)		Rs. Lacs	16.92

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU			5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26
Auxiliary Consumption	MU			0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Net Generation	MU			4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
<b>Fixed Cost</b>																							
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh			25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh			37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			15.32	15.92	16.55	17.22	17.93	18.67	19.46	20.29	21.17	22.09	23.19	24.21	25.00	26.22	27.50	28.84	30.25	31.73	33.29	34.92
Return on Equity	Rs Lakh			26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>122.84</b>	<b>121.19</b>	<b>119.65</b>	<b>118.20</b>	<b>116.85</b>	<b>115.61</b>	<b>114.48</b>	<b>113.48</b>	<b>112.60</b>	<b>111.86</b>	<b>116.67</b>	<b>116.22</b>	<b>102.62</b>	<b>105.83</b>	<b>109.21</b>	<b>112.79</b>	<b>116.55</b>	<b>120.52</b>	<b>124.72</b>	<b>129.13</b>
<b>Levillised tariff corresponding to Useful life</b>																							
Per Unit Cost of Generation		Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh		<b>5.35</b>	3.80	3.99	4.19	4.40	4.62	4.85	5.10	5.35	5.62	5.90	6.19	6.50	6.83	7.17	7.53	7.90	8.30	8.71	9.15	9.61
O&M expn	Rs/kWh		<b>0.55</b>	0.37	0.39	0.42	0.44	0.46	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
Depreciation	Rs/kWh		<b>0.48</b>	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Int. on term loan	Rs/kWh		<b>0.40</b>	0.78	0.71	0.64	0.58	0.51	0.44	0.37	0.31	0.24	0.17	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh		<b>0.42</b>	0.32	0.33	0.34	0.36	0.37	0.39	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	0.73
RoE	Rs/kWh		<b>0.58</b>	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
<b>Total COG</b>	<b>Rs/kWh</b>		<b>7.78</b>	<b>6.36</b>	<b>6.51</b>	<b>6.68</b>	<b>6.86</b>	<b>7.05</b>	<b>7.26</b>	<b>7.48</b>	<b>7.71</b>	<b>7.96</b>	<b>8.22</b>	<b>8.62</b>	<b>8.92</b>	<b>8.96</b>	<b>9.37</b>	<b>9.80</b>	<b>10.25</b>	<b>10.72</b>	<b>11.22</b>	<b>11.74</b>	<b>12.29</b>
<b>Levillised Tariff</b>																							
Levillised Tariff		Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.80	Rs/kWh																					
Levillised Tariff (Fixed)	2.43	Rs/kWh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>6.23</b>	<b>Rs/kWh</b>																					

<b>Determination of Accelerated Depreciation for non-fossil fuel based co-generation project</b>																					
Depreciation amount		90%																			
Book Depreciation rate		5.28%																			
Tax Depreciation rate		80%																			
Additional Depreciation		20.00%																			
Income Tax (Normal Rates)		32.445%																			
Capital Cost Rs. Lakh		440.243																			
<b>Years -----&gt;</b>	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelrated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	2.40	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
Per unit benefit	Rs/Unit	2.81	1.18	-0.04	-0.13	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.18</b>	<b>(Rs/kWh)</b>																			

					Annexure 4D		
					Select State		
					Punjab		
Non Fossil Fuel based co-generation Projects							
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions		
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1		
			Auxillary Consumption during stabilisation	%	8.50%		
			Auxillary Consumption after stabilisation	%	8.50%		
			PLF(Stablization for 6 months)	%	53%		
			PLF(during first year after Stablization)	%	53%		
			PLF(second year onwards)	%	53%		
			Useful Life	Years	20		
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433		
		3	Financial Assumptions	Debt: Equity	Debt	%	70%
Equity	%				30%		
Total Debt Amount	Rs Lacs				308.303		
Total Equity Amount	Rs Lacs				132.130		
Debt Component	Loan Amount				Rs Lacs	308.30	
	Moratorium Period				years	0	
	Repayment Period(incld Moratorium)			years	12		
	Interest Rate			%	12.70%		
Equity Component	Equity amount			Rs Lacs	132.13		
	Return on Equity for first 10 years			% p.a	20.00%		
	Return on Equity after 10 years			%	24.00%		
					Weighted average of ROE	%	22.00%
					Discount Rate (equiv. to WACC)	%	10.81%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%		
			Depreciation	Depreciation Rate(power plant)	%	5.83%	
				Depreciation Rate 13th year onwards	%	2.51%	
5	Working Capital	For Fixed Charges	O&M Charges	Months	1		
			Maintenance Spare	(% of O&M exepenses)	15%		
			Receivables for Debtors	Months	2		
			For Variable Charges	Biomass Stock	Months	4	
				Interest On Working Capital	%	13.20%	
6	Fuel Related Assumptions	Heat Rate	After Stabilisation period	Kcal/kwh	3600		
			During Stablization Period	Kcal/kwh	3600		
		Biomass	Bagasse Price	Rs/T	1941.72		
			GCV - Bagasse	Kcal/kg	2250		
			Bagasse Price Escalation Factor		5.00%		
7	Operation & Maintenance	O&M Expenses (2014-15)		Rs. Lacs	17.89		
		O & M Expenses Escalation		%	5.72%		
		O&M Expenses (2013-14)		Rs. Lacs	16.92		

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
Auxiliary Consumption	MU		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Net Generation	MU		4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		12.72	13.18	13.68	14.21	14.76	15.35	15.97	16.62	17.32	18.05	18.94	19.76	20.32	21.31	22.34	23.42	24.56	25.76	27.02	28.34
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>120.23</b>	<b>118.46</b>	<b>116.77</b>	<b>115.18</b>	<b>113.68</b>	<b>112.28</b>	<b>110.99</b>	<b>109.81</b>	<b>108.75</b>	<b>107.82</b>	<b>112.42</b>	<b>111.76</b>	<b>97.94</b>	<b>100.91</b>	<b>104.05</b>	<b>107.37</b>	<b>110.86</b>	<b>114.55</b>	<b>118.44</b>	<b>122.55</b>
Levelling tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levelling	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>4.78</b>	3.40	3.57	3.74	3.93	4.13	4.33	4.55	4.78	5.02	5.27	5.53	5.81	6.10	6.40	6.72	7.06	7.41	7.78	8.17	8.58
O&M expn	Rs/kWh	<b>0.63</b>	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.62	0.66	0.69	0.73	0.78	0.82	0.87	0.92	0.97	1.03	1.08	1.15	1.21
Depreciation	Rs/kWh	<b>0.54</b>	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Int. on term loan	Rs/kWh	<b>0.45</b>	0.88	0.81	0.73	0.65	0.58	0.50	0.42	0.35	0.27	0.19	0.12	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.39</b>	0.30	0.31	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.42	0.45	0.47	0.48	0.50	0.53	0.55	0.58	0.61	0.64	0.67
RoE	Rs/kWh	<b>0.65</b>	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.44</b>	<b>6.23</b>	<b>6.35</b>	<b>6.49</b>	<b>6.64</b>	<b>6.80</b>	<b>6.98</b>	<b>7.16</b>	<b>7.36</b>	<b>7.58</b>	<b>7.81</b>	<b>8.18</b>	<b>8.44</b>	<b>8.40</b>	<b>8.78</b>	<b>9.17</b>	<b>9.59</b>	<b>10.02</b>	<b>10.48</b>	<b>10.96</b>	<b>11.46</b>
Levelling Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.40	Rs/Kwh																				
Levelling Tariff (Fixed)	2.66	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.06</b>	<b>Rs/Kwh</b>																				

<b>Determination of Accelerated Depreciation for non-fossil fuel based co-generation project</b>																						
Depreciation amount	90%																					
Book Depreciation rate	5.28%																					
Tax Depreciation rate	80%																					
Additional Depreciation	20.00%																					
Income Tax (Normal Rates)	32.445%																					
Capital Cost Rs. Lakh	440.243																					
<b>Years -----&gt;</b>	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00
<b>Accelerated Depreciation</b>																						
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	2.12	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Per unit benefit	Rs/Unit	3.18	1.34	-0.04	-0.15	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.20</b>	<b>(Rs/kWh)</b>																				



Select State

TN

## Non Fossil Fuel based co-generation Projects

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	8.50%
			Auxillary Consumption after stabilisation	%	8.50%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablization)	%	60%
			PLF(second year onwards)	%	60%
			Useful Life	Years	20
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	308.303
			Total Equity Amount	Rs Lacs	132.130
		<u>Debt Component</u>	Loan Amount	Rs Lacs	308.30
			Moratorium Period	years	0
			Repayment Period(incl'd Moratorium)	years	12
			Interest Rate	%	12.70%
		<u>Equity Component</u>	Equity amount	Rs Lacs	132.13
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years	%	24.00%
			Weighted average of ROE	%	22.00%
			Discount Rate (equiv. to WACC)	%	10.81%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
		<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
			Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15%
			Receivables for Debtors	Months	2
		<u>For Variable Charges</u>	Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After Stabilisation period	Kcal/kwh	3600
			During Stablization Period	Kcal/kwh	3600
		<u>Biomass</u>	Bagasse Price	Rs/T	1671.11
			GCV - Bagasse	Kcal/kg	2250
			Bagasse Price Escalation Factor		5.00%
	Operation & Maintenance				
		O&M Expenses (2014-15)		Rs. Lacs	17.89
		O & M Expenses Escalation		%	5.72%
7		O&M Expenses (2013-14)		Rs. Lacs	16.92

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26
Auxiliary Consumption	MU		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Net Generation	MU		4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		12.47	12.92	13.40	13.92	14.46	15.03	15.63	16.27	16.95	17.66	18.53	19.33	19.88	20.83	21.84	22.90	24.02	25.18	26.41	27.71
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>119.98</b>	<b>118.20</b>	<b>116.50</b>	<b>114.89</b>	<b>113.38</b>	<b>111.96</b>	<b>110.66</b>	<b>109.46</b>	<b>108.38</b>	<b>107.43</b>	<b>112.01</b>	<b>111.33</b>	<b>97.49</b>	<b>100.44</b>	<b>103.56</b>	<b>106.85</b>	<b>110.32</b>	<b>113.98</b>	<b>117.84</b>	<b>121.92</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	4.11	2.92	3.07	3.22	3.38	3.55	3.73	3.92	4.11	4.32	4.53	4.76	5.00	5.25	5.51	5.79	6.07	6.38	6.70	7.03	7.38
O&M expn	Rs/kWh	0.55	0.37	0.39	0.42	0.44	0.46	0.49	0.52	0.55	0.58	0.61	0.65	0.69	0.73	0.77	0.81	0.86	0.91	0.96	1.01	1.07
Depreciation	Rs/kWh	0.48	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Int. on term loan	Rs/kWh	0.40	0.78	0.71	0.64	0.58	0.51	0.44	0.37	0.31	0.24	0.17	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.34	0.26	0.27	0.28	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.39	0.40	0.41	0.43	0.45	0.48	0.50	0.52	0.55	0.58
RoE	Rs/kWh	0.58	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
<b>Total COG</b>	<b>Rs/kWh</b>	<b>6.46</b>	<b>5.42</b>	<b>5.53</b>	<b>5.64</b>	<b>5.77</b>	<b>5.91</b>	<b>6.06</b>	<b>6.22</b>	<b>6.39</b>	<b>6.57</b>	<b>6.77</b>	<b>7.09</b>	<b>7.31</b>	<b>7.27</b>	<b>7.60</b>	<b>7.94</b>	<b>8.30</b>	<b>8.67</b>	<b>9.07</b>	<b>9.48</b>	<b>9.92</b>
Levillised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	2.92	Rs/Kwh																				
Levillised Tariff (Fixed)	2.34	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>5.27</b>	<b>Rs/Kwh</b>																				

Determination of Accelerated Depreciation for non-fossil fuel based co-generation project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost Rs. Lakh	440.243																				
<b>Years -----&gt;</b>	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00
<b>Accelerated Depreciation</b>																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	2.40	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
Per unit benefit	Rs/Unit	2.81	1.18	-0.04	-0.13	-0.15	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.09	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.18</b>	<b>(Rs/kWh)</b>																			

					Annexure 4F	
					UP	
					Select State	
Non Fossil Fuel based co-generation Projects						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	8.50%	
			Auxillary Consumption after stabilisation	%	8.50%	
			PLF(Stablization for 6 months)	%	45%	
			PLF(during first year after Stablization)	%	45%	
			PLF(second year onwards)	%	45%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	308.303	
			Total Equity Amout	Rs Lacs	132.130	
			<u>Debt Component</u>	Loan Amount	Rs Lacs	308.30
				Moratorium Period	years	0
				Repayment Period(incld Moratorium)	years	12
				Interest Rate	%	12.70%
			<u>Equity Component</u>	Equity amount	Rs Lacs	132.13
				Return on Equity for first 10 years	% p.a	20.00%
Return on Equity after 10 years	%	24.00%				
Weighted average of ROE	%	22.00%				
			Discount Rate (equiv. to WACC)	%	10.81%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%	
			<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>	Biomass Stock	Months	4
				Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	<u>Heat Rate</u>	After Stabilisation period	Kcal/kwh	3600	
			During Stablization Period	Kcal/kwh	3600	
			<u>Biomass</u>	Bagasse Price	Rs/T	1730.46
				GCV - Bagasse	Kcal/kg	2250
				Bagasse Price Escalation Factor		5.00%
7	Operation & Maintenance	<u>O &amp; M Expenses Escalation</u>	O&M Expenses (2014-15)	Rs. Lacs	17.89	
			O & M Expenses Escalation	%	5.72%	
			O&M Expenses (2013-14)	Rs. Lacs	16.92	

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Auxiliary Consumption	MU		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
Net Generation	MU		3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		10.35	10.70	11.07	11.46	11.88	12.32	12.79	13.29	13.82	14.38	15.08	15.71	16.07	16.84	17.65	18.50	19.39	20.33	21.32	22.35
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>117.86</b>	<b>115.97</b>	<b>114.16</b>	<b>112.44</b>	<b>110.80</b>	<b>109.26</b>	<b>107.82</b>	<b>106.48</b>	<b>105.25</b>	<b>104.15</b>	<b>108.56</b>	<b>107.71</b>	<b>93.68</b>	<b>96.45</b>	<b>99.37</b>	<b>102.44</b>	<b>105.69</b>	<b>109.12</b>	<b>112.74</b>	<b>116.57</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levallised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>4.26</b>	3.03	3.18	3.34	3.50	3.68	3.86	4.06	4.26	4.47	4.69	4.93	5.18	5.43	5.71	5.99	6.29	6.61	6.94	7.28	7.65
O&M expn	Rs/kWh	<b>0.74</b>	0.50	0.52	0.55	0.59	0.62	0.65	0.69	0.73	0.77	0.82	0.86	0.91	0.97	1.02	1.08	1.14	1.21	1.28	1.35	1.43
Depreciation	Rs/kWh	<b>0.64</b>	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Int. on term loan	Rs/kWh	<b>0.53</b>	1.04	0.95	0.86	0.77	0.68	0.59	0.50	0.41	0.32	0.23	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.37</b>	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.37	0.38	0.40	0.42	0.44	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62
RoE	Rs/kWh	<b>0.77</b>	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.30</b>	<b>6.29</b>	<b>6.39</b>	<b>6.50</b>	<b>6.62</b>	<b>6.75</b>	<b>6.89</b>	<b>7.04</b>	<b>7.21</b>	<b>7.39</b>	<b>7.58</b>	<b>7.94</b>	<b>8.16</b>	<b>8.03</b>	<b>8.38</b>	<b>8.75</b>	<b>9.13</b>	<b>9.54</b>	<b>9.96</b>	<b>10.41</b>	<b>10.88</b>
Levallised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.03	Rs/Kwh																				
Levallised Tariff (Fixed)	3.04	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.07</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for non-fossil fuel based co-generation project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost Rs. Lakh	440.243

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelrated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	1.80	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
Per unit benefit	Rs/Unit	3.75	1.57	-0.05	-0.18	-0.20	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.11	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15

<b>Levellised benefit</b>	<b>0.23</b>	<b>(Rs/kWh)</b>
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Non Fossil Fuel based co-generation Projects				Select State	Others	
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	73	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	8.50%	
			Auxillary Consumption after stabilisation	%	8.50%	
			PLF(Stablization for 6 months)	%	53%	
			PLF(during first year after Stablization)	%	53%	
			PLF(second year onwards)	%	53%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	440.433	
		3	Financial Assumptions	Debt: Equity	Debt	%
Equity	%				30%	
Total Debt Amount	Rs Lacs				308.303	
Total Equity Amount	Rs Lacs				132.130	
Debt Component	Loan Amount			Rs Lacs	308.30	
	Moratorium Period			years	0	
	Repayment Period(incl'd Moratorium)			years	12	
	Interest Rate			%	12.70%	
Equity Component	Equity amount			Rs Lacs	132.13	
	Return on Equity for first 10 years			% p.a	20.00%	
	Return on Equity after 10 years			%	24.00%	
	Weighted average of ROE			%	22.00%	
	Discount Rate (equiv. to WACC)			%	10.81%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	For Fixed Charges O&M Charges Maintenance Spare Receivables for Debtors For Variable Charges Biomass Stock Interest On Working Capital	(% of O&M exepenses)	Months	1	
				15%		
			Months	2		
			Months	4		
			%	13.20%		
			6	Fuel Related Assumptions	Heat Rate	After Stabilisation period
During Stablization Period	Kcal/kwh	3600				
Biomass	Bagasse Price	Rs/T			1878.81	
	GCV - Bagasse	Kcal/kg			2250	
	Bagasse Price Escalation Factor				5.00%	
7	Operation & Maintenance	O&M Expenses (2014-15)	Rs. Lacs	17.89		
		O & M Expenses Escalation	%	5.72%		
		O&M Expenses (2013-14)	Rs. Lacs	16.92		

Determination of Tariff for non-fossil fuel based co-generation 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
Auxiliary Consumption	MU		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Net Generation	MU		4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.89	18.91	19.99	21.14	22.35	23.62	24.97	26.40	27.91	29.51	31.20	32.98	34.87	36.86	38.97	41.20	43.56	46.05	48.68	51.47
Depreciation	Rs Lakh		25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	25.68	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03
Interest on term loan	Rs Lakh		37.52	34.26	31.00	27.73	24.47	21.21	17.95	14.68	11.42	8.16	4.89	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		12.40	12.85	13.33	13.84	14.38	14.95	15.55	16.18	16.85	17.56	18.43	19.22	19.76	20.71	21.71	22.77	23.87	25.04	26.26	27.54
Return on Equity	Rs Lakh		26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	26.43	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>119.91</b>	<b>118.13</b>	<b>116.43</b>	<b>114.81</b>	<b>113.30</b>	<b>111.88</b>	<b>110.57</b>	<b>109.37</b>	<b>108.29</b>	<b>107.33</b>	<b>111.91</b>	<b>111.22</b>	<b>97.37</b>	<b>100.32</b>	<b>103.43</b>	<b>106.71</b>	<b>110.18</b>	<b>113.83</b>	<b>117.68</b>	<b>121.75</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levallised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>4.62</b>	3.29	3.45	3.62	3.80	3.99	4.19	4.40	4.62	4.85	5.10	5.35	5.62	5.90	6.20	6.50	6.83	7.17	7.53	7.91	8.30
O&M expn	Rs/kWh	<b>0.63</b>	0.42	0.45	0.47	0.50	0.53	0.56	0.59	0.62	0.66	0.69	0.73	0.78	0.82	0.87	0.92	0.97	1.03	1.08	1.15	1.21
Depreciation	Rs/kWh	<b>0.54</b>	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Int. on term loan	Rs/kWh	<b>0.45</b>	0.88	0.81	0.73	0.65	0.58	0.50	0.42	0.35	0.27	0.19	0.12	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.38</b>	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.38	0.40	0.41	0.43	0.45	0.47	0.49	0.51	0.54	0.56	0.59	0.62	0.65
RoE	Rs/kWh	<b>0.65</b>	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.28</b>	<b>6.11</b>	<b>6.23</b>	<b>6.36</b>	<b>6.51</b>	<b>6.66</b>	<b>6.83</b>	<b>7.01</b>	<b>7.20</b>	<b>7.40</b>	<b>7.62</b>	<b>7.99</b>	<b>8.24</b>	<b>8.19</b>	<b>8.56</b>	<b>8.94</b>	<b>9.34</b>	<b>9.76</b>	<b>10.21</b>	<b>10.68</b>	<b>11.17</b>
Levallised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2014-15)	3.29	Rs/Kwh																				
Levallised Tariff (Fixed)	2.65	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>5.94</b>	<b>Rs/Kwh</b>																				



Determination of Accelerated Depreciation for non-fossil fuel based co-generation project																						
Depreciation amount	90%																					
Book Depreciation rate	5.28%																					
Tax Depreciation rate	80%																					
Additional Depreciation	20.00%																					
Income Tax (Normal Rates)	32.445%																					
Capital Cost Rs. Lakh	440.243																					
<b>Years -----&gt;</b>	<b>Unit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	
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%
Book Depreciation	Rs Lakh	11.62	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	23.24	12.68	0.00	0.00
<b>Accelerated Depreciation</b>																						
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelrated Deprn.	Rs Lakh	220.12	198.11	17.61	3.52	0.70	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	208.50	174.86	-5.64	-19.72	-22.54	-23.10	-23.22	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-23.24	-12.68	0.00	0.00
Tax Benefit	Rs Lakh	67.65	56.73	-1.83	-6.40	-7.31	-7.50	-7.53	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-7.54	-4.11	0.00	0.00
Net Energy generation	MU	2.12	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Per unit benefit	Rs/Unit	3.18	1.34	-0.04	-0.15	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.10	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.20</b>	<b>(Rs/kWh)</b>																				

## Assumption for Solar PV Power Projects Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Asumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxiliary Consumption	%	0.00%	
			Capacity Utilization Factor	%	19.0%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	612	
3	Financial Assumptions		Tariff Period	Years	25	
			<u>Debt: Equity</u>			
			Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	428.40	
			Total Equity Amout	Rs Lacs	183.60	
			<u>Debt Component</u>			
			Loan Amount	Rs Lacs	428.40	
			Moratorium Period	years	0	
			Repayment Period(inclcd Moratorium)	years	12	
			Interest Rate	%	12.70%	
			<u>Equity Component</u>			
			Equity amount	Rs Lacs	183.60	
			Return on Equity for first 10 years	% p.a	20.00%	
Return on Equity 11th year onwards	% p.a	24.00%				
Weighted average of ROE		22.40%				
Discount Rate		10.81%				
4	Financial Assumptions		<u>Fiscal Assumptions</u>			
			Income Tax	%	32.445%	
			<u>Depreciation</u>			
			Depreciation Rate for first 12 years	%	5.83%	
			Depreciation Rate 13th year onwards	%	1.54%	
5	Working Capital		<u>For Fixed Charges</u>			
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	%	15%
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>			
Interest On Working Capital	%	13.20%				
6	Operation & Maintenance		O&M Expenses (2014-15)	Rs. Lacs	12.30	
			O & M Expenses Escalation	%	5.72%	
			O&M Expenses (2013-14)	Rs. Lacs	11.63	

Determination of Tariff for Solar PV																											
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
Gross Generation	MU		1.664	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Auxiliary Consumption	MU		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Net Generation			1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664	1.664
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		12.30	13.00	13.74	14.53	15.36	16.24	17.17	18.15	19.19	20.28	21.44	22.67	23.97	25.34	26.79	28.32	29.94	31.65	33.46	35.38	37.40	39.54	41.80	44.19	46.72
Depreciation	Rs Lakh		35.68	35.68	35.68	35.68	35.68	35.68	35.68	35.68	35.68	35.68	35.68	35.68	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43	9.43
Interest on term loan	Rs Lakh		52.14	47.61	43.07	38.54	34.00	29.47	24.94	20.40	15.87	11.33	6.80	2.27	0.00	0.00	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		3.47	3.40	3.34	3.28	3.22	3.17	3.12	3.07	3.02	2.98	3.10	3.07	2.50	2.57	2.65	2.73	2.82	2.91	3.01	3.11	3.22	3.34	3.46	3.59	3.73
Return on Equity	Rs Lakh		36.72	36.72	36.72	36.72	36.72	36.72	36.72	36.72	36.72	36.72	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>140.30</b>	<b>136.41</b>	<b>132.55</b>	<b>128.75</b>	<b>124.99</b>	<b>121.28</b>	<b>117.62</b>	<b>114.02</b>	<b>110.48</b>	<b>107.00</b>	<b>111.09</b>	<b>107.75</b>	<b>79.96</b>	<b>81.41</b>	<b>82.94</b>	<b>84.55</b>	<b>86.26</b>	<b>88.06</b>	<b>89.97</b>	<b>91.99</b>	<b>94.12</b>	<b>96.38</b>	<b>98.76</b>	<b>101.28</b>	<b>103.94</b>
Levellised COG																											
Per Unit Cost of Generation	Unit	Levellised	1	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 expn	Rs/kWh	<b>1.18</b>	0.74	0.78	0.83	0.87	0.92	0.98	1.03	1.09	1.15	1.22	1.29	1.36	1.44	1.52	1.61	1.70	1.80	1.90	2.01	2.13	2.25	2.38	2.51	2.66	2.81
Depreciation	Rs/kWh	<b>1.78</b>	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Int. on term loan	Rs/kWh	<b>1.50</b>	3.13	2.86	2.59	2.32	2.04	1.77	1.50	1.23	0.95	0.68	0.41	0.14	0.00	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	<b>0.19</b>	0.21	0.20	0.20	0.20	0.19	0.19	0.19	0.18	0.18	0.18	0.19	0.18	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.19	0.19	0.20	0.21	0.22	0.22
RoE	Rs/kWh	<b>2.34</b>	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65
<b>Total COG</b>	<b>Rs/kWh</b>		<b>8.43</b>	<b>8.20</b>	<b>7.96</b>	<b>7.74</b>	<b>7.51</b>	<b>7.29</b>	<b>7.07</b>	<b>6.85</b>	<b>6.64</b>	<b>6.43</b>	<b>6.67</b>	<b>6.47</b>	<b>4.80</b>	<b>4.89</b>	<b>4.98</b>	<b>5.08</b>	<b>5.18</b>	<b>5.29</b>	<b>5.41</b>	<b>5.53</b>	<b>5.65</b>	<b>5.79</b>	<b>5.93</b>	<b>6.09</b>	<b>6.25</b>
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142	0.128	0.116	0.105	0.094	0.085
<b>Levellised Tariff</b>	<b>6.99</b>	<b>Rs/Unit</b>																									

Determination of Accelerated Depreciation Benefit for Solar PV Power Projects																										
Depreciation amount		90%																								
Book Depreciation rate		5.28%																								
Tax Depreciation rate		80%																								
Additional Depreciation		20.00%																								
Income Tax (Normal Rates)		32.445%																								
Capital Cost		612.0																								
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	16.16	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	17.63	0.00	0.00	0.00	0.00	0.00	0.00
<b>Accelerated Depreciation</b>																										
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0%	0%	0%	0%	0%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50%	5%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Depn.	Rs Lakh	306.00	275.40	24.48	4.90	0.98	0.20	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	289.84	243.09	-7.83	-27.42	-31.33	-32.12	-32.27	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-17.63	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	94.04	78.87	-2.54	-8.90	-10.17	-10.42	-10.47	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-10.48	-5.72	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	0.83	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09
<b>Levellised benefit</b>	<b>0.66</b>	<b>Rs/Unit</b>																								

Assumptions for Solar Thermal Power Projects Parameters						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Capacity Utilization Factor	%	23.0%	
			Auxiliary Consumption Factor	%	10.0%	
			Useful Life	Years	25	
2	Project Cost	Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	1200.00	
3	Sources of Fund		Tariff Period	Years	25	
			<u>Debt: Equity</u>			
			Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	840	
			Total Equity Amount	Rs Lacs	360	
			<u>Debt Component</u>			
			Loan Amount	Rs Lacs	840.00	
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	12	
			Interest Rate	%	12.70%	
			<u>Equity Component</u>			
			Equity amount	Rs Lacs	360.00	
Return on Equity for first 10 years	% p.a	20.00%				
Return on Equity 11th year onwards	% p.a	24.00%				
Weighted average of ROE	%	22.40%				
Discount Rate	%	10.81%				
4	Financial Assumptions		<u>Fiscal Assumptions</u>			
			Income Tax	%	32.445%	
			<u>Depreciation</u>			
			Depreciation Rate for first 12 years	%	5.83%	
			Depreciation Rate 13th year onwards	%	1.54%	
5	Working Capital		<u>For Fixed Charges</u>			
			O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	%	15%
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>			
			Interest On Working Capital	%	13.20%	
6	Operation & Maintenance		O&M Expenses (2014-15)	Rs Lacs	16.77	
			O & M Expenses Escalation	%	5.72%	
			O&M Expenses (2013-14)	Rs Lacs	15.86	

Determination of Tariff Component - (Solar Thermal)																												
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		1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	
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		16.77	17.73	18.74	19.81	20.95	22.14	23.41	24.75	26.16	27.66	29.24	30.92	32.68	34.55	36.53	38.62	40.83	43.17	45.63	48.24	51.00	53.92	57.01	60.27	63.71	
Depreciation	Rs Lakh		69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	69.96	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50
Interest on term loan	Rs Lakh		102.24	93.35	84.46	75.57	66.68	57.79	48.90	40.01	31.12	22.23	13.34	4.45	0.00	0.00	0.00	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		6.40	6.25	6.10	5.96	5.82	5.69	5.56	5.43	5.31	5.19	5.40	5.29	4.12	4.23	4.33	4.44	4.56	4.69	4.82	4.96	5.11	5.27	5.44	5.61	5.80	
Return on Equity	Rs Lakh		72.00	72.00	72.00	72.00	72.00	72.00	72.00	72.00	72.00	72.00	72.00	72.00	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40	86.40
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>267.36</b>	<b>259.28</b>	<b>251.26</b>	<b>243.30</b>	<b>235.40</b>	<b>227.58</b>	<b>219.82</b>	<b>212.14</b>	<b>204.55</b>	<b>197.03</b>	<b>204.33</b>	<b>197.01</b>	<b>141.71</b>	<b>143.68</b>	<b>145.76</b>	<b>147.96</b>	<b>150.29</b>	<b>152.75</b>	<b>155.36</b>	<b>158.11</b>	<b>161.02</b>	<b>164.09</b>	<b>167.34</b>	<b>170.78</b>	<b>174.41</b>	
Levilled COG																												
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	
O&M expn	Rs/kWh	1.47	0.92	0.98	1.03	1.09	1.16	1.22	1.29	1.36	1.44	1.53	1.61	1.70	1.80	1.91	2.01	2.13	2.25	2.38	2.52	2.66	2.81	2.97	3.14	3.32	3.51	
Depreciation	Rs/kWh	3.20	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Int. on term loan	Rs/kWh	2.70	5.64	5.15	4.66	4.17	3.68	3.19	2.70	2.21	1.72	1.23	0.74	0.25	0.00	0.00	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	0.31	0.35	0.34	0.34	0.33	0.32	0.31	0.31	0.30	0.29	0.29	0.30	0.29	0.23	0.23	0.24	0.25	0.25	0.26	0.27	0.27	0.28	0.29	0.30	0.31	0.32	
RoE	Rs/kWh	4.21	3.97	3.97	3.97	3.97	3.97	3.97	3.97	3.97	3.97	3.97	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76
<b>Total COG</b>	<b>Rs/kWh</b>	<b>11.89</b>	<b>14.74</b>	<b>14.30</b>	<b>13.86</b>	<b>13.42</b>	<b>12.98</b>	<b>12.55</b>	<b>12.12</b>	<b>11.70</b>	<b>11.28</b>	<b>10.87</b>	<b>11.27</b>	<b>10.86</b>	<b>7.81</b>	<b>7.92</b>	<b>8.04</b>	<b>8.16</b>	<b>8.29</b>	<b>8.42</b>	<b>8.57</b>	<b>8.72</b>	<b>8.88</b>	<b>9.05</b>	<b>9.23</b>	<b>9.42</b>	<b>9.62</b>	
<b>Levilled Tariff</b>	<b>11.89</b>	<b>Rs/Unit</b>																										

Determination of Accelerated Depreciation Benefit for Solar Thermal Power Projects																										
Depreciation amount		90%																								
Book Depreciation rate		5.28%																								
Tax Depreciation rate		80%																								
Additional depreciation		20.00%																								
Income Tax (Normal Rates)		32.445%																								
Capital Cost		1200.0																								
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	31.68	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	63.36	34.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Accelerated Depreciation</b>																										
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50.00%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	600.00	540.00	48.00	9.60	1.92	0.38	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	568.32	476.64	-15.36	-53.76	-61.44	-62.98	-63.28	-63.34	-63.36	-63.36	-63.36	-63.36	-63.36	-63.36	-63.36	-63.36	-63.36	-34.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	184.39	154.65	-4.98	-17.44	-19.93	-20.43	-20.53	-20.55	-20.56	-20.56	-20.56	-20.56	-20.56	-20.56	-20.56	-20.56	-20.56	-11.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	0.91	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09
<b>Levellised benefit</b>	<b>1.19</b>	<b>Rs/Unit</b>																								

				Select State	Annexure-7A AP	
<b>Assumption for Biomass Gasifier Power Project Parameters</b>						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF(Stablization for 6 months)	%	85%	
			PLF(during first year after Stablization)	%	85%	
			PLF(second year onwards)	%	85%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)		576.758	
			Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	298.731	
			Total Equity Amout	Rs Lacs	128.027	
			Debt Component	Loan Amount	Rs Lacs	298.73
				Moratorium Period	years	0
				Repayment Period(incld Moratorium)	years	12
				Interest Rate	%	12.70%
			Equity Component	Equity amount	Rs Lacs	128.03
				Return on Equity for first 10 years	% p.a	20.00%
				Return on Equity after 10 years		24.00%
		Weighted average of ROE		22.00%		
		Discount Rate (equiv. to WACC)		10.81%		
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			For Variable Charges	Biomass Stock	Months	4
				Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25	
			Base Price	Rs/T	2747.59	
			Biomass Price Escalation Factor		5.00%	
			7	Operation & Maintenance	O& M Expenses	O& M Expenses (2014-15)
O & M Expenses Escalation	%	5.72%				
O& M Expenses (2013-14)	Rs Lacs	42.29				



Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gross Generation	MU			7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	
Auxiliary Consumption	MU			0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	
Net Generation	MU			6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			255.73	268.52	281.94	296.04	310.84	326.39	342.71	359.84	377.83	396.72	416.56	437.39	459.26	482.22	506.33	531.65	558.23	586.14	615.45	646.22
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh			24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh			36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			21.63	22.56	23.54	24.57	25.66	26.81	28.02	29.30	30.65	32.07	33.68	35.25	36.63	38.45	40.36	42.37	44.48	46.70	49.03	51.49
Return on Equity	Rs Lakh			25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>153.18</b>	<b>153.50</b>	<b>154.03</b>	<b>154.76</b>	<b>155.71</b>	<b>156.89</b>	<b>158.32</b>	<b>160.01</b>	<b>161.97</b>	<b>164.22</b>	<b>172.00</b>	<b>174.88</b>	<b>165.20</b>	<b>172.00</b>	<b>179.19</b>	<b>186.77</b>	<b>194.77</b>	<b>203.22</b>	<b>212.13</b>	<b>221.55</b>
Levillised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh		<b>5.37</b>	3.82	4.01	4.21	4.42	4.64	4.87	5.11	5.37	5.64	5.92	6.22	6.53	6.85	7.20	7.56	7.93	8.33	8.75	9.18	9.64
O&M expn	Rs/kWh		<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh		<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh		<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh		<b>0.44</b>	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	0.57	0.60	0.63	0.66	0.70	0.73	0.77
RoE	Rs/kWh		<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>		<b>7.81</b>	<b>6.10</b>	<b>6.30</b>	<b>6.51</b>	<b>6.73</b>	<b>6.96</b>	<b>7.21</b>	<b>7.48</b>	<b>7.76</b>	<b>8.06</b>	<b>8.37</b>	<b>8.78</b>	<b>9.14</b>	<b>9.32</b>	<b>9.76</b>	<b>10.23</b>	<b>10.72</b>	<b>11.24</b>	<b>11.78</b>	<b>12.35</b>	<b>12.95</b>
Levillised Tariff		Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	3.82	Rs/Kwh																					
Levillised Tariff (Fixed)	2.44	Rs/Kwh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>6.26</b>	<b>Rs/Kwh</b>																					

Determination of Accelerated Depreciation for Biomass Gasifier Power Project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost	426.758																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.12 (Rs/kWh)</b>																				

					Annexure-7B	
					Select State	
					Harayana	
<b>Assumption for Biomass Gasifier Power Project Parameters</b>						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF(Stablization for 6 months)	%	85%	
			PLF(during first year after Stablization)	%	85%	
			PLF(second year onwards)	%	85%	
			Useful Life	Years	20	
			2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)
			Power Plant Cost (after subsidy)		426.758	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	298.731	
			Total Equity Amout	Rs Lacs	128.027	
			Debt Component	Loan Amount	Rs Lacs	298.73
				Moratorium Period	years	0
				Repayment Period(incld Moratorium)	years	12
				Interest Rate	%	12.70%
				Equity Component	Equity amount	Rs Lacs
			Return on Equity for first 10 years		% p.a	20.00%
			Return on Equity after 10 years			24.00%
			Weighted average of ROE			22.00%
						Discount Rate (equiv. to WACC)
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			For Variable Charges	Biomass Stock	Months	4
				Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25	
			Base Price	Rs/T	3127.40	
			Biomass Price Escalation Factor		5.00%	
			7	Operation & Maintenance	O & M Expemses (2014-15)	Rs Lacs
O & M Expemses Escalation	%	5.72%				
O & M Expemses (2013-14)	Rs Lacs	42.29				

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		291.08	305.64	320.92	336.96	353.81	371.50	390.08	409.58	430.06	451.56	474.14	497.85	522.74	548.88	576.32	605.14	635.40	667.17	700.53	735.55
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		24.01	25.06	26.17	27.33	28.56	29.86	31.22	32.66	34.17	35.77	37.56	39.33	40.91	42.95	45.08	47.33	49.69	52.17	54.78	57.52
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>155.56</b>	<b>156.01</b>	<b>156.66</b>	<b>157.52</b>	<b>158.61</b>	<b>159.94</b>	<b>161.52</b>	<b>163.36</b>	<b>165.49</b>	<b>167.92</b>	<b>175.89</b>	<b>178.96</b>	<b>169.48</b>	<b>176.50</b>	<b>183.91</b>	<b>191.73</b>	<b>199.98</b>	<b>208.68</b>	<b>217.87</b>	<b>227.57</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>6.11</b>	4.34	4.56	4.79	5.03	5.28	5.54	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48	9.96	10.45	10.98
O&M expn	Rs/kWh	<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.49</b>	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	0.71	0.74	0.78	0.82	0.86
RoE	Rs/kWh	<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.60</b>	<b>6.66</b>	<b>6.89</b>	<b>7.13</b>	<b>7.38</b>	<b>7.65</b>	<b>7.93</b>	<b>8.23</b>	<b>8.55</b>	<b>8.89</b>	<b>9.24</b>	<b>9.70</b>	<b>10.10</b>	<b>10.33</b>	<b>10.82</b>	<b>11.34</b>	<b>11.89</b>	<b>12.47</b>	<b>13.07</b>	<b>13.70</b>	<b>14.37</b>
Levillised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	4.34 Rs/Kwh																					
Levillised Tariff (Fixed)	2.49 Rs/Kwh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>6.83 Rs/Kwh</b>																					

Determination of Accelerated Depreciation for Biomass Gasifier Power Project																					
Depreciation amount	90%																				
Book Depreciation rate	5.28%																				
Tax Depreciation rate	80%																				
Additional Depreciation	20.00%																				
Income Tax (Normal Rates)	32.445%																				
Capital Cost	426.758																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Depm.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levillised benefit</b>	<b>0.12 (Rs/kWh)</b>																				

Select State

Maharashtra

## Assumption for Biomass Gasifier Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	%	85%
			PLF(during first year after Stablization)	%	85%
			PLF(second year onwards)	%	85%
			Useful Life	Years	20
2	Project Cost		Power Plant Cost (before subsidy)		576.758
		Capital Cost/MW	Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	298.731
			Total Equity Amout	Rs Lacs	128.027
		<u>Debt Component</u>	Loan Amount	Rs Lacs	298.73
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	12
			Interest Rate	%	12.70%
		<u>Equity Component</u>	Equity amount	Rs Lacs	128.03
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years		24.00%
			Weighted average of ROE		22.00%
			Discount Rate (equiv. to WACC)		10.81%
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
			<u>Depreciation</u>	Depreciation Rate(power plant)	%
		Depreciation Rate 13th year onwards		%	2.51%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15%
		Receivables for Debtors	Months	2	
		<u>For Variable Charges</u>	Biomass Stock	Months	4
			Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	<u>Biomass</u>	Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	3198.61
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance		O & M Expenses (2014-15)	Rs Lacs	44.71
			O & M Expenses Escalation	%	5.72%
			O & M Expenses (2013-14)	Rs Lacs	42.29

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		297.71	312.60	328.23	344.64	361.87	379.96	398.96	418.91	439.85	461.85	484.94	509.19	534.65	561.38	589.45	618.92	649.86	682.36	716.48	752.30
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		24.46	25.53	26.66	27.85	29.10	30.43	31.82	33.29	34.83	36.46	38.29	40.10	41.72	43.79	45.97	48.26	50.67	53.19	55.85	58.65
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>156.01</b>	<b>156.48</b>	<b>157.15</b>	<b>158.04</b>	<b>159.15</b>	<b>160.51</b>	<b>162.12</b>	<b>163.99</b>	<b>166.15</b>	<b>168.61</b>	<b>176.62</b>	<b>179.72</b>	<b>170.29</b>	<b>177.35</b>	<b>184.79</b>	<b>192.66</b>	<b>200.95</b>	<b>209.71</b>	<b>218.95</b>	<b>228.70</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>6.25</b>	4.44	4.66	4.90	5.14	5.40	5.67	5.95	6.25	6.56	6.89	7.24	7.60	7.98	8.38	8.80	9.24	9.70	10.18	10.69	11.23
O&M expn	Rs/kWh	<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Int. on term loan	Rs/kWh	<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.50</b>	0.36	0.38	0.40	0.42	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.60	0.62	0.65	0.69	0.72	0.76	0.79	0.83	0.88
RoE	Rs/kWh	<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.75</b>	<b>6.77</b>	<b>7.00</b>	<b>7.24</b>	<b>7.50</b>	<b>7.77</b>	<b>8.07</b>	<b>8.37</b>	<b>8.70</b>	<b>9.04</b>	<b>9.41</b>	<b>9.87</b>	<b>10.28</b>	<b>10.52</b>	<b>11.02</b>	<b>11.55</b>	<b>12.11</b>	<b>12.70</b>	<b>13.31</b>	<b>13.96</b>	<b>14.64</b>
Levillised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	4.44	Rs/Kwh																				
Levillised Tariff (Fixed)	2.50	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.94</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for Biomass Gasifier Power Project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost	426.758

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.12 (Rs/kWh)</b>																				



					Annexure-7D	
					Select State	
					Punjab	
<b>Assumption for Biomass Gasifier Power Project Parameters</b>						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF(Stablization for 6 months)	%	85%	
			PLF(during first year after Stablization)	%	85%	
			PLF(second year onwards)	%	85%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)		576.758	
			Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	298.731	
			Total Equity Amout	Rs Lacs	128.027	
		Debt Component	Loan Amount	Rs Lacs	298.73	
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	12	
			Interest Rate	%	12.70%	
			Equity Component	Equity amount	Rs Lacs	128.03
		Return on Equity for first 10 years		% p.a	20.00%	
		Return on Equity after 10 years			24.00%	
		Weighted average of ROE			22.00%	
				Discount Rate (equiv. to WACC)		10.81%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			For Variable Charges	Biomass Stock	Months	4
				Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25	
			Base Price	Rs/T	3271.01	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O & M Expenses (2014-15)	Rs Lacs	44.71		
		O & M Expenses Escalation	%	5.72%		
		O & M Expenses (2013-14)	Rs Lacs	42.29		

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gross Generation	MU			7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	
Auxiliary Consumption	MU			0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	
Net Generation	MU			6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	
Variable Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh			304.45	319.67	335.65	352.44	370.06	388.56	407.99	428.39	449.81	472.30	495.92	520.71	546.75	574.08	602.79	632.93	664.57	697.80	732.69	769.33
Fixed Cost		Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh			44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh			24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh			36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh			24.91	26.01	27.16	28.38	29.66	31.01	32.43	33.93	35.51	37.17	39.03	40.88	42.53	44.65	46.87	49.20	51.66	54.24	56.95	59.79
Return on Equity	Rs Lakh			25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>			<b>156.47</b>	<b>156.96</b>	<b>157.65</b>	<b>158.56</b>	<b>159.70</b>	<b>161.09</b>	<b>162.73</b>	<b>164.63</b>	<b>166.82</b>	<b>169.32</b>	<b>177.36</b>	<b>180.50</b>	<b>171.10</b>	<b>178.20</b>	<b>185.69</b>	<b>193.60</b>	<b>201.95</b>	<b>210.75</b>	<b>220.04</b>	<b>229.85</b>
Levallised tariff corresponding to Useful life																							
Per Unit Cost of Generation		Unit	Levllised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh		<b>6.40</b>	4.54	4.77	5.01	5.26	5.52	5.80	6.09	6.39	6.71	7.05	7.40	7.77	8.16	8.57	8.99	9.44	9.92	10.41	10.93	11.48
O&M expn	Rs/kWh		<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh		<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh		<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh		<b>0.51</b>	0.37	0.39	0.41	0.42	0.44	0.46	0.48	0.51	0.53	0.55	0.58	0.61	0.63	0.67	0.70	0.73	0.77	0.81	0.85	0.89
RoE	Rs/kWh		<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>		<b>8.90</b>	<b>6.88</b>	<b>7.11</b>	<b>7.36</b>	<b>7.63</b>	<b>7.91</b>	<b>8.20</b>	<b>8.52</b>	<b>8.85</b>	<b>9.20</b>	<b>9.57</b>	<b>10.05</b>	<b>10.46</b>	<b>10.71</b>	<b>11.23</b>	<b>11.77</b>	<b>12.33</b>	<b>12.93</b>	<b>13.56</b>	<b>14.22</b>	<b>14.91</b>
Levllised Tariff		Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor				1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	4.54	Rs/Kwh																					
Levllised Tariff (Fixed)	2.51	Rs/Kwh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>7.05</b>	<b>Rs/Kwh</b>																					

Determination of Accelerated Depreciation for Biomass Gasifier Power Project																						
Depreciation amount		90%																				
Book Depreciation rate		5.28%																				
Tax Depreciation rate		80%																				
Additional Depreciation		20.00%																				
Income Tax (Normal Rates)		32.445%																				
Capital Cost		426.758																				
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00
Accelerated Depreciation																						
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	
<b>Levellised benefit</b>	<b>0.12 (Rs/kWh)</b>																					

Select State

Rajasthan

## Assumption for Biomass Gasifier Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	%	85%
			PLF(during first year after Stablization)	%	85%
			PLF(second year onwards)	%	85%
			Useful Life	Years	20
2	Project Cost		Power Plant Cost (before subsidy)		576.758
		Capital Cost/MW	Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	298.731
			Total Equity Amout	Rs Lacs	128.027
		<u>Debt Component</u>	Loan Amount	Rs Lacs	298.73
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	12
			Interest Rate	%	12.70%
		<u>Equity Component</u>	Equity amount	Rs Lacs	128.03
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years		24.00%
			Weighted average of ROE		22.00%
	Discount Rate (equiv. to WACC)		10.81%		
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%
		<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
	Depreciation Rate 13th year onwards	%	2.51%		
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1
			Maintenance Spare	(% of O&M exepenses)	15%
			Receivables for Debtors	Months	2
			<u>For Variable Charges</u>		
			Biomass Stock	Months	4
6	Fuel Related Assumptions	<u>Biomass</u>	Interest On Working Capital	%	13.20%
			Specific Fuel Consumption	kg/kWh	1.25
			Base Price	Rs/T	2729.79
			Biomass Price Escalation Factor		5.00%
7	Operation & Maintenance		O & M Expenses (2014-15)	Rs Lacs	44.71
			O & M Expenses Escalation	%	5.72%
			O & M Expenses (2013-14)	Rs Lacs	42.29

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		254.08	266.78	280.12	294.12	308.83	324.27	340.49	357.51	375.39	394.15	413.86	434.56	456.28	479.10	503.05	528.21	554.62	582.35	611.46	642.04
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		21.51	22.44	23.41	24.44	25.53	26.67	27.87	29.14	30.48	31.89	33.50	35.06	36.43	38.24	40.14	42.14	44.24	46.44	48.77	51.20
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>153.07</b>	<b>153.39</b>	<b>153.90</b>	<b>154.63</b>	<b>155.57</b>	<b>156.75</b>	<b>158.17</b>	<b>159.85</b>	<b>161.80</b>	<b>164.04</b>	<b>171.82</b>	<b>174.69</b>	<b>165.00</b>	<b>171.79</b>	<b>178.96</b>	<b>186.53</b>	<b>194.52</b>	<b>202.96</b>	<b>211.86</b>	<b>221.26</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.34</b>	3.79	3.98	4.18	4.39	4.61	4.84	5.08	5.33	5.60	5.88	6.18	6.48	6.81	7.15	7.51	7.88	8.28	8.69	9.12	9.58
O&M expn	Rs/kWh	<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.44</b>	0.32	0.33	0.35	0.36	0.38	0.40	0.42	0.43	0.45	0.48	0.50	0.52	0.54	0.57	0.60	0.63	0.66	0.69	0.73	0.76
RoE	Rs/kWh	<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.77</b>	<b>6.08</b>	<b>6.27</b>	<b>6.48</b>	<b>6.70</b>	<b>6.93</b>	<b>7.18</b>	<b>7.44</b>	<b>7.72</b>	<b>8.02</b>	<b>8.33</b>	<b>8.74</b>	<b>9.09</b>	<b>9.27</b>	<b>9.71</b>	<b>10.18</b>	<b>10.67</b>	<b>11.18</b>	<b>11.72</b>	<b>12.29</b>	<b>12.88</b>
Levillised Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	3.79	Rs/Kwh																				
Levillised Tariff (Fixed)	2.44	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.23</b>	<b>Rs/Kwh</b>																				

**Determination of Accelerated Depreciation for Biomass Gasifier Power Project**

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost	426.758

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00

**Accelerated Depreciation**

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.12 (Rs/kWh)</b>																				

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## Assumption for Biomass Gasifier Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF(Stablization for 6 months)	%	85%	
			PLF(during first year after Stablization)	%	85%	
			PLF(second year onwards)	%	85%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)		576.758	
			Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	298.731	
			Total Equity Amount	Rs Lacs	128.027	
			Debt Component	Loan Amount	Rs Lacs	298.73
				Moratorium Period	years	0
		Repayment Period(inclcd Moratorium)		years	12	
		Equity Component	Interest Rate	%	12.70%	
			Equity amount	Rs Lacs	128.03	
			Return on Equity for first 10 years	% p.a	20.00%	
			Return on Equity after 10 years		24.00%	
				Weighted average of ROE		22.00%
				Discount Rate (equiv. to WACC)		10.81%
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
		Depreciation Rate 13th year onwards		%	2.51%	
		5	Working Capital	For Fixed Charges	O&M Charges	Months
Maintenance Spare	(% of O&M exepenses)				15%	
Receivables for Debtors	Months			2		
For Variable Charges	Biomass Stock			Months	4	
	Interest On Working Capital			%	13.20%	
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25	
			Base Price	Rs/T	2702.49	
			Biomass Price Escalation Factor		5.00%	
			7	Operation & Maintenance	O & M Expenses (2014-15)	Rs Lacs
O & M Expenses Escalation	%	5.72%				
O & M Expenses (2013-14)	Rs Lacs	42.29				

**Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Vaiable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		251.53	264.11	277.32	291.18	305.74	321.03	337.08	353.93	371.63	390.21	409.72	430.21	451.72	474.31	498.02	522.92	549.07	576.52	605.35	635.61
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		21.34	22.26	23.22	24.24	25.32	26.45	27.64	28.90	30.23	31.63	33.22	34.77	36.12	37.91	39.80	41.78	43.86	46.05	48.35	50.77
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>152.89</b>	<b>153.21</b>	<b>153.71</b>	<b>154.43</b>	<b>155.36</b>	<b>156.53</b>	<b>157.94</b>	<b>159.61</b>	<b>161.55</b>	<b>163.78</b>	<b>171.54</b>	<b>174.39</b>	<b>164.69</b>	<b>171.47</b>	<b>178.62</b>	<b>186.18</b>	<b>194.15</b>	<b>202.57</b>	<b>211.45</b>	<b>220.83</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levllised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.28</b>	3.75	3.94	4.14	4.35	4.56	4.79	5.03	5.28	5.55	5.82	6.11	6.42	6.74	7.08	7.43	7.80	8.19	8.60	9.03	9.48
O&M expn	Rs/kWh	<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.43</b>	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.43	0.45	0.47	0.50	0.52	0.54	0.57	0.59	0.62	0.65	0.69	0.72	0.76
RoE	Rs/kWh	<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.72</b>	<b>6.03</b>	<b>6.23</b>	<b>6.43</b>	<b>6.65</b>	<b>6.88</b>	<b>7.13</b>	<b>7.39</b>	<b>7.66</b>	<b>7.96</b>	<b>8.27</b>	<b>8.67</b>	<b>9.02</b>	<b>9.20</b>	<b>9.64</b>	<b>10.10</b>	<b>10.58</b>	<b>11.09</b>	<b>11.63</b>	<b>12.19</b>	<b>12.78</b>
Levllised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	3.75 Rs/kwh																					
Levllised Tariff (Fixed)	2.43 Rs/kwh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>6.19 Rs/kwh</b>																					



### Determination of Accelerated Depreciation for Biomass Gasifier Power Project

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost	426.758

Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00

#### Accelerated Depreciation

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Depm.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	

<b>Levellised benefit</b>	<b>0.12</b>	<b>(Rs/kWh)</b>
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## Assumption for Biomass Gasifier Power Project Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stabilisation	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	%	85%
			PLF(during first year after Stablization)	%	85%
			PLF(second year onwards)	%	85%
			Useful Life	Years	20
			2	Project Cost	Capital Cost/MW
Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758			
3	Financial Assumptions	Debt: Equity	Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	298.731
			Total Equity Amout	Rs Lacs	128.027
		Debt Component	Loan Amount	Rs Lacs	298.73
			Moratorium Period	years	0
			Repayment Period(incld Moratorium)	years	12
			Interest Rate	%	12.70%
		Equity Component	Equity amount	Rs Lacs	128.03
			Return on Equity for first 10 years	% p.a	20.00%
			Return on Equity after 10 years		24.00%
			Weighted average of ROE		22.00%
	Discount Rate (equiv. to WACC)		10.81%		
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%
			Depreciation	Depreciation Rate(power plant)	%
		Depreciation Rate 13th year onwards		%	2.51%
		5	Working Capital	For Fixed Charges	O&M Charges
Maintenance Spare	(% of O&M exepenses)				15%
Receivables for Debtors	Months			2	
For Variable Charges	Biomass Stock			Months	4
	Interest On Working Capital			%	13.20%
6	Fuel Related Assumptions			Biomass	Specific Fuel Consumption
		Base Price	Rs/T		2795.07
		Biomass Price Escalation Factor			5.00%
7	Operation & Maintenance	O & M Expenses (2014-15)	Rs Lacs	44.71	
		O & M Expenses Escalation	%	5.72%	
		O & M Expenses (2013-14)	Rs Lacs	42.29	

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Vaiable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		260.15	273.16	286.82	301.16	316.22	332.03	348.63	366.06	384.36	403.58	423.76	444.95	467.19	490.55	515.08	540.84	567.88	596.27	626.08	657.39
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		21.92	22.87	23.86	24.92	26.02	27.19	28.42	29.72	31.09	32.53	34.16	35.76	37.17	39.01	40.95	42.99	45.13	47.38	49.75	52.24
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>153.48</b>	<b>153.82</b>	<b>154.36</b>	<b>155.10</b>	<b>156.07</b>	<b>157.27</b>	<b>158.72</b>	<b>160.43</b>	<b>162.41</b>	<b>164.68</b>	<b>172.49</b>	<b>175.39</b>	<b>165.73</b>	<b>172.57</b>	<b>179.78</b>	<b>187.39</b>	<b>195.42</b>	<b>203.90</b>	<b>212.85</b>	<b>222.30</b>
Levallised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levellised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.46</b>	3.88	4.08	4.28	4.49	4.72	4.95	5.20	5.46	5.74	6.02	6.32	6.64	6.97	7.32	7.69	8.07	8.47	8.90	9.34	9.81
O&M expn	Rs/kWh	<b>0.99</b>	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	<b>0.33</b>	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Int. on term loan	Rs/kWh	<b>0.28</b>	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.44</b>	0.33	0.34	0.36	0.37	0.39	0.41	0.42	0.44	0.46	0.49	0.51	0.53	0.55	0.58	0.61	0.64	0.67	0.71	0.74	0.78
RoE	Rs/kWh	<b>0.40</b>	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>7.91</b>	<b>6.17</b>	<b>6.37</b>	<b>6.58</b>	<b>6.81</b>	<b>7.05</b>	<b>7.30</b>	<b>7.57</b>	<b>7.86</b>	<b>8.16</b>	<b>8.48</b>	<b>8.90</b>	<b>9.26</b>	<b>9.44</b>	<b>9.90</b>	<b>10.37</b>	<b>10.87</b>	<b>11.39</b>	<b>11.94</b>	<b>12.52</b>	<b>13.13</b>
Levellised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	3.88	Rs/Kwh																				
Levellised Tariff (Fixed)	2.45	Rs/Kwh																				
<b>Applicable Tariff (FY2014-15)</b>	<b>6.33</b>	<b>Rs/Kwh</b>																				

Determination of Accelerated Depreciation for Biomass Gasifier Power Project																					
Depreciation amount		90%																			
Book Depreciation rate		5.28%																			
Tax Depreciation rate		80%																			
Additional Depreciation		20.00%																			
Income Tax (Normal Rates)		32.445%																			
Capital Cost		426.758																			
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15
<b>Levellised benefit</b>	<b>0.12 (Rs/kWh)</b>																				

					Annexure-7H	
				Select State	Others	
Assumption for Biomass Gasifier Power Project Parameters						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	10%	
			Auxillary Consumption after stabilisation	%	10%	
			PLF(Stablization for 6 months)	%	85%	
			PLF(during first year after Stablization)	%	85%	
			PLF(second year onwards)	%	85%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)		576.758	
			Power Plant Cost (after subsidy)	Rs Lacs/MW	426.758	
3	Financial Assumptions	Debt: Equity	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	298.731	
			Total Equity Amout	Rs Lacs	128.027	
		Debt Component	Loan Amount	Rs Lacs	298.73	
			Moratorium Period	years	0	
			Repayment Period(incld Moratorium)	years	12	
			Interest Rate	%	12.70%	
		Equity Component	Equity amount	Rs Lacs	128.03	
			Return on Equity for first 10 years	% p.a	20.00%	
			Return on Equity after 10 years		24.00%	
			Weighted average of ROE		22.00%	
			Discount Rate (equiv. to WACC)		10.81%	
4	Financial Assumptions	Fiscal Assumptions	Income Tax	%	32.445%	
			Depreciation	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	For Fixed Charges	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			For Variable Charges	Biomass Stock	Months	4
				Interest On Working Capital	%	13.20%
6	Fuel Related Assumptions	Biomass	Specific Fuel Consumption	kg/kWh	1.25	
			Base Price	Rs/T	2938.69	
			Biomass Price Escalation Factor		5.00%	
7	Operation & Maintenance	O & M Expenses (2014-15)	O & M Expenses Escalation	%	5.72%	
			O & M Expenses (2013-14)	Rs Lacs	42.29	
			O & M Expenses (2014-15)	Rs Lacs	44.71	

Determination of Tariff Component: Biomass Gasifier Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gross Generation	MU		7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	7.45	
Auxiliary Consumption	MU		0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	
Net Generation	MU		6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		273.52	287.19	301.55	316.63	332.46	349.09	366.54	384.87	404.11	424.32	445.53	467.81	491.20	515.76	541.55	568.62	597.06	626.91	658.25	691.17
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	10.69	10.69	10.69	10.69	10.69	10.69	10.69	10.69
Interest on term loan	Rs Lakh		36.36	33.20	30.03	26.87	23.71	20.55	17.39	14.23	11.07	7.90	4.74	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		22.83	23.82	24.86	25.96	27.12	28.34	29.63	30.99	32.42	33.93	35.63	37.31	38.79	40.71	42.74	44.86	47.10	49.45	51.92	54.52
Return on Equity	Rs Lakh		25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	25.61	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73	30.73
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>154.38</b>	<b>154.76</b>	<b>155.35</b>	<b>156.15</b>	<b>157.17</b>	<b>158.42</b>	<b>159.93</b>	<b>161.70</b>	<b>163.74</b>	<b>166.08</b>	<b>173.96</b>	<b>176.93</b>	<b>167.35</b>	<b>174.27</b>	<b>181.56</b>	<b>189.26</b>	<b>197.39</b>	<b>205.97</b>	<b>215.02</b>	<b>224.58</b>
Levelling tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levelling	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	5.75	4.08	4.29	4.50	4.72	4.96	5.21	5.47	5.74	6.03	6.33	6.65	6.98	7.33	7.70	8.08	8.49	8.91	9.35	9.82	10.31
O&M expn	Rs/kWh	0.99	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16	1.23	1.30	1.37	1.45	1.54	1.62	1.72	1.82	1.92
Depreciation	Rs/kWh	0.33	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	0.28	0.54	0.50	0.45	0.40	0.35	0.31	0.26	0.21	0.17	0.12	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	0.46	0.34	0.36	0.37	0.39	0.40	0.42	0.44	0.46	0.48	0.51	0.53	0.56	0.58	0.61	0.64	0.67	0.70	0.74	0.77	0.81
RoE	Rs/kWh	0.40	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
<b>Total COG</b>	<b>Rs/kWh</b>	<b>8.21</b>	<b>6.39</b>	<b>6.60</b>	<b>6.82</b>	<b>7.05</b>	<b>7.31</b>	<b>7.57</b>	<b>7.86</b>	<b>8.16</b>	<b>8.47</b>	<b>8.81</b>	<b>9.24</b>	<b>9.62</b>	<b>9.83</b>	<b>10.30</b>	<b>10.79</b>	<b>11.31</b>	<b>11.85</b>	<b>12.43</b>	<b>13.03</b>	<b>13.66</b>
Levelling Tariff	Unit	Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.90	0.81	0.74	0.66	0.60	0.54	0.49	0.44	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.16	0.14
Variable Cost (FY 2014-15)	4.08 Rs/Kwh																					
Levelling Tariff (Fixed)	2.46 Rs/Kwh																					
<b>Applicable Tariff (FY2014-15)</b>	<b>6.55 Rs/Kwh</b>																					

### Determination of Accelerated Depreciation for Biomass Gasifier Power Project

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20.00%
Income Tax (Normal Rates)	32.445%
Capital Cost	426.758

Years	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	11.27	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	12.29	0.00	0.00

#### Accelerated Depreciation

Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	213.38	192.04	17.07	3.41	0.68	0.14	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	202.11	169.51	-5.46	-19.12	-21.85	-22.40	-22.51	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-22.53	-12.29	0.00	0.00
Tax Benefit	Rs Lakh	65.58	55.00	-1.77	-6.20	-7.09	-7.27	-7.30	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-7.31	-3.99	0.00	0.00
Net Energy generation	MU	3.35	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
Per unit benefit	Rs/Unit	1.96	0.82	-0.03	-0.09	-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	-0.06	0.00	0.00
Discounting Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15

**Levellised benefit**      **0.12** (Rs/kWh)

Assumption for Biogas Based Power Project Parameters						
S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions	
1	Power Generation	<u>Capacity</u>	Installed Power Generation Capacity	MW	1	
			Auxillary Consumption during stabilisation	%	12%	
			PLF	%	90%	
			Useful Life	Years	20	
2	Project Cost	Capital Cost/MW	Power Plant Cost (before subsidy)	Rs Lacs/MW	1153.515	
			Power Plant Cost (after subsidy)	Rs Lacs/MW	853.515	
3	Financial Assumptions	<u>Debt: Equity</u>	Debt	%	70%	
			Equity	%	30%	
			Total Debt Amount	Rs Lacs	597.461	
			Total Equity Amout	Rs Lacs	256.055	
		<u>Debt Component</u>	Loan Amount	Rs Lacs	597.46	
			Moratorium Period	years	0	
			Repayment Period(incl Moratorium)	years	12	
			Interest Rate	%	12.70%	
		<u>Equity Component</u>	Equity amount	Rs Lacs	256.05	
			Return on Equity for first 10 years	% p.a	20.00%	
Return on Equity after 10 years	%		24.00%			
Weighted average of ROE	%		22.00%			
			Discount Rate (equiv. to WACC)	%	10.81%	
4	Financial Assumptions	<u>Fiscal Assumptions</u>	Income Tax	%	32.445%	
			<u>Depreciation</u>	Depreciation Rate(power plant)	%	5.83%
				Depreciation Rate 13th year onwards	%	2.51%
5	Working Capital	<u>For Fixed Charges</u>	O&M Charges	Months	1	
			Maintenance Spare	(% of O&M exepenses)	15%	
			Receivables for Debtors	Months	2	
			<u>For Variable Charges</u>			
			Biomass Stock	Months	4	
6	Fuel Related Assumptions	<u>Interest On Working Capital</u>		%	13.20%	
			<u>Biomass</u>	Fuel Price	Rs/T	1175.00
				Specific Fuel Consumption	kg/kWh	3
				Substrates Price Escalation Factor		5.00%
7	Operation & Maintenance	O&M Expenses (2014-15)	Total O & M Expenses Escalation	Rs Lacs	44.71	
			O&M Expenses (2013-14)	%	5.72%	
				Rs Lacs	42.29	



Determination of Tariff Component: Biogas Based Power 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
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88
Auxiliary Consumption	MU		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Net Generation	MU		6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94
Variable Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		277.91	291.81	306.40	321.72	337.80	354.69	372.43	391.05	410.60	431.13	452.69	475.32	499.09	524.04	550.24	577.76	606.64	636.98	668.83	702.27
Fixed Cost	Unit	Year-->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		44.71	47.27	49.97	52.83	55.85	59.04	62.42	65.99	69.77	73.76	77.98	82.44	87.15	92.14	97.41	102.98	108.87	115.10	121.68	128.64
Depreciation	Rs Lakh		49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	21.38	21.38	21.38	21.38	21.38	21.38	21.38	21.38
Interest on term loan	Rs Lakh		72.72	66.39	60.07	53.75	47.42	41.10	34.78	28.45	22.13	15.81	9.48	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		25.08	26.01	27.00	28.04	29.15	30.32	31.56	32.86	34.25	35.70	37.47	39.10	40.25	42.20	44.26	46.41	48.68	51.06	53.57	56.20
Return on Equity	Rs Lakh		51.21	51.21	51.21	51.21	51.21	51.21	51.21	51.21	51.21	51.21	51.21	61.45	61.45	61.45	61.45	61.45	61.45	61.45	61.45	61.45
<b>Total Fixed Cost</b>	<b>Rs Lakh</b>		<b>243.47</b>	<b>240.64</b>	<b>238.01</b>	<b>235.59</b>	<b>233.39</b>	<b>231.44</b>	<b>229.73</b>	<b>228.28</b>	<b>227.11</b>	<b>226.24</b>	<b>236.15</b>	<b>235.91</b>	<b>210.24</b>	<b>217.17</b>	<b>224.50</b>	<b>232.23</b>	<b>240.38</b>	<b>248.99</b>	<b>258.08</b>	<b>267.68</b>
Levillised tariff corresponding to Useful life																						
Per Unit Cost of Generation	Unit	Levillised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	<b>5.64</b>	4.01	4.21	4.42	4.64	4.87	5.11	5.37	5.64	5.92	6.21	6.52	6.85	7.19	7.55	7.93	8.33	8.74	9.18	9.64	10.12
O&M expn	Rs/kWh	<b>0.96</b>	0.64	0.68	0.72	0.76	0.80	0.85	0.90	0.95	1.01	1.06	1.12	1.19	1.26	1.33	1.40	1.48	1.57	1.66	1.75	1.85
Depreciation	Rs/kWh	<b>0.64</b>	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Int. on term loan	Rs/kWh	<b>0.53</b>	1.05	0.96	0.87	0.77	0.68	0.59	0.50	0.41	0.32	0.23	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	<b>0.48</b>	0.36	0.37	0.39	0.40	0.42	0.44	0.45	0.47	0.49	0.51	0.54	0.56	0.58	0.61	0.64	0.67	0.70	0.74	0.77	0.81
RoE	Rs/kWh	<b>0.78</b>	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
<b>Total COG</b>	<b>Rs/kWh</b>	<b>9.02</b>	<b>7.51</b>	<b>7.67</b>	<b>7.85</b>	<b>8.03</b>	<b>8.23</b>	<b>8.45</b>	<b>8.68</b>	<b>8.93</b>	<b>9.19</b>	<b>9.48</b>	<b>9.93</b>	<b>10.25</b>	<b>10.22</b>	<b>10.68</b>	<b>11.17</b>	<b>11.67</b>	<b>12.21</b>	<b>12.77</b>	<b>13.36</b>	<b>13.98</b>
Levillised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.902	0.814	0.735	0.663	0.599	0.540	0.488	0.440	0.397	0.358	0.323	0.292	0.263	0.238	0.215	0.194	0.175	0.158	0.142
Variable Cost (FY2013-14)	4.01	Rs/Kwh																				
Levillised Tariff (Fixed)	3.38	Rs/Kwh																				
<b>Applicable Tariff (FY2013-14)</b>	<b>7.39</b>	<b>Rs/Kwh</b>																				

Determination of Accelerated Depreciation for Biomass Power Project																					
Depreciation amount		90%																			
Book Depreciation rate		5.28%																			
Tax Depreciation rate		80%																			
Additional depreciation		20.00%																			
Income Tax (Normal Rates)		32.445%																			
Capital Cost		853.515																			
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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%
Book Depreciation	Rs Lakh	22.53	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	45.07	24.58	0.00	0.00
Accelerated Depreciation																					
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Allowed during the year	%	50%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelerated Deprn.	Rs Lakh	426.76	384.08	34.14	6.83	1.37	0.27	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	404.22	339.02	-10.92	-38.24	-43.70	-44.79	-45.01	-45.05	-45.06	-45.07	-45.07	-45.07	-45.07	-45.07	-45.07	-45.07	-45.07	-24.58	0.00	0.00
Tax Benefit	Rs Lakh	131.15	109.99	-3.54	-12.41	-14.18	-14.53	-14.60	-14.62	-14.62	-14.62	-14.62	-14.62	-14.62	-14.62	-14.62	-14.62	-14.62	-7.98	0.00	0.00
Net Energy generation	MU	3.47	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94	6.94
Per unit benefit	Rs/Unit	3.78	1.59	-0.05	-0.18	-0.20	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.11	0.00	0.00
Discounting Factor		3.60	3.42	3.08	2.78	2.51	2.26	2.04	1.83	1.65	1.49	1.34	1.21	1.09	0.98	0.89	0.80	0.72	0.65	0.59	0.53
<b>Levillised benefit</b>	<b>0.24</b>	<b>(Rs/kWh)</b>																			