

# Joint Electricity Regulatory Commission

## (For the State of Goa & Union Territories)

(Renewable Energy Tariff) Regulations, 2019, Dated: 24.07.2019

Sl. No.	Description	Summary		
1.	<b>Control Period</b>	3 Years starting from the date of the notification of these Regulations, of which the first year shall be the financial year 2019-20 and the last year shall be the financial year 2021-22		
2.	<b>Tariff Period/Useful Life</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>Useful Life/Tariff Period (in years)</b>
		1.	Wind energy power project	25
		2.	Biomass power project with Rankine cycle technology	20
		3.	Small Hydro Plant	35
		4.	Municipal Solid Waste (MSW)/ and Refuse Derived Fuel (RDF) based power project	20
		5.	Solar PV/Solar thermal power project With or without Energy Storage	25
		6.	Hybrid Wind and Solar	25
		7.	Biomass Gasifier based power project	20
		8.	Biogas based power project	20
3.	<b>Procurement of Power from Renewable Energy Projects</b>	<p>1. In case the Distribution Licensee opts to procure power from any Renewable Energy Project(s) set up within their licensed area at the Generic Tariff for 1 MW and above approved by the Commission, the Distribution Licensee shall file the Petition for prior approval of Energy Purchase Agreement for procurement of power from such Renewable Energy Project(s).</p> <p>2. In case the Distribution Licensee opts to procure power from Renewable Energy Projects through competitive bidding process in accordance with the guidelines issued by the central government,, the Generic Tariff determined by the Commission shall act as a ceiling tariff and for such procurement of power, the Distribution Licensee shall file the Petition for adoption of tariff.</p> <p>3. Distribution Licensee can procure power from Grid Connected Rooftop mounted, ground mounted and floating Solar Power Project of any capacity less than 1 MW and above 1kW at the Generic Tariff approved by the Commission for Solar PV without specific approval of Energy Purchase Agreement.</p> <p>4. All Renewable Energy power plants shall be treated as 'Must Run' power plants and procurement of power by Distribution Licensee from such power plants shall not be subjected to 'Merit Order Despatch' principles.</p> <p>5. Renewable Energy Power Plant with installed capacity of 5 MW and above shall be required to furnish to Distribution Licensee a month-wise schedule.</p>		
4.	<b>Discount Factor</b>	For the purpose of levelized tariff computation, the discount factor equivalent to Post Tax weighted average cost of capital shall be considered.		
5.	<b>Capital Cost</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>Capital Cost (in Rs. Lakh/MW)</b>
		1.	Wind Energy Projects	
			Mainland area	525

			Island areas (Andaman & Nicobar)	625						
			Island areas (Lakshadweep)	700						
		2.	Small Hydro projects							
			<b>Projects in Mainland Areas</b>							
			Below 5 MW	779						
			5 MW to 25 MW	707						
			<b>Projects in Island Areas</b>							
			Below 5 MW	1050						
			5 MW to 25 MW	900						
		3.	Solar PV Power Projects (for Gross metering)							
			Mainland area	500						
			Island areas	600						
		4.	Solar Thermal Power Project	Based on market prevailing trends						
		5.	Biomass Power Projects based on Rankine Cycle Technology	Petition filed by Project Developer						
		6.	Biomass Gasifier Power Projects	Petition filed by Project Developer						
		7.	Biogas based Power Projects	Based on market prevailing trends						
		8.	Municipal Solid Waste/Refuse Derived Fuel and based on Rankine cycle technology	Based on market prevailing trends						
6.	<b>Debt Equity Ratio</b>	70:30 <ul style="list-style-type: none"> <li>If the equity actually deployed is less than 30% the actual equity shall be considered, and if the equity actually deployed is more than 30 % of the capital cost, equity in excess of 30 % shall be treated as normative loan.</li> </ul>								
7.	<b>Loan and Finance Charges</b>	<b>Loan Tenure – 12 Years</b> <b>Normative Interest Rate:</b> <table border="1"> <thead> <tr> <th>Particulars</th> <th>Interest Rate</th> </tr> </thead> <tbody> <tr> <td>Mainland</td> <td>SBI MCLR (One-year tenor) prevalent during the last available six months + 200 basis points</td> </tr> <tr> <td>Island</td> <td>SBI MCLR (One-year tenor) prevalent during the last available six months + 300 basis points</td> </tr> </tbody> </table> <p>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.</p>			Particulars	Interest Rate	Mainland	SBI MCLR (One-year tenor) prevalent during the last available six months + 200 basis points	Island	SBI MCLR (One-year tenor) prevalent during the last available six months + 300 basis points
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8.	<b>Depreciation</b>	<ol style="list-style-type: none"> <li>The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.</li> <li>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.</li> <li>Depreciation rate of 5.83% per annum shall be considered for first 12 years and remaining depreciation shall be spread during remaining useful life of the RE projects considering the salvage value of the project as 10% of project cost.</li> </ol>								

9.	<b>Return on Equity</b>	<p>The value base for the equity shall be 30% of the capital cost or actual equity. The normative Return on Equity shall be:</p> <ul style="list-style-type: none"> <li>• 14% for Renewable Energy Projects in Mainland areas;</li> <li>• 16% for Renewable Energy Projects in Island areas.</li> </ul>							
10.	<b>Interest on Working Capital</b>	<p>Normative Working Capital Interest Rate</p> <table border="1" data-bbox="570 310 1443 516"> <thead> <tr> <th data-bbox="570 310 760 359">Particulars</th> <th data-bbox="760 310 1443 359">Interest Rates</th> </tr> </thead> <tbody> <tr> <td data-bbox="570 359 760 443">Mainland</td> <td data-bbox="760 359 1443 443">State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months + 300 basis points</td> </tr> <tr> <td data-bbox="570 443 760 516">Island</td> <td data-bbox="760 443 1443 516">State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months + 400 basis points</td> </tr> </tbody> </table>		Particulars	Interest Rates	Mainland	State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months + 300 basis points	Island	State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months + 400 basis points
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11.	<b>Capacity Utilization Factor/Plant Load Factor</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>CUF/PLF</b>					
		1.	Wind Energy Projects						
			Goa	18%					
			Andaman & Nicobar Islands	18%					
			Puducherry	21%					
			Lakshadweep	20%					
			Daman	19%					
			Chandigarh	18%					
			Dadra & Nagar Haveli	18%					
			Diu	26%					
		2.	Small Hydro projects	30%					
		3.	Solar PV Power Project (for Gross metering)						
			Puducherry	18%					
			Dadra & Nagar Haveli	18%					
			Lakshadweep	17%					
			Andaman & Nicobar Islands	17%					
			Daman	18%					
			Diu	18%					
			Chandigarh	17%					
			Goa	18%					
		4.	Solar Thermal Power Project	det. by Commission					
		5.	Biomass Power Projects based on Rankine Cycle Technology						
			During 1 <sup>st</sup> year:	70%					
			From 2 <sup>nd</sup> Year onwards	80%					
		6.	Biomass Gasifier Power Projects	85%					
		7.	Biogas based Power Projects	90%					

		8.	<b>Municipal Solid Waste</b>	
			<b>Refuse Derived Fuel and based on Rankine cycle technology-</b>	70%
			First year	65%
			From 2 <sup>nd</sup> year onwards	80%
<b>12.</b>	<b>Operation and Maintenance Expenses</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>O &amp; M cost (in Rs. Lakh/MW)</b>
		1.	Wind Energy Projects	
			Mainland areas	1.5% of C.C.
			Island areas	2% of C.C.
		2.	Small Hydro projects	
			Mainland areas	2% of C.C.
			Island areas	2.5% of C.C.
		3.	Solar PV Power Project (for Gross metering)	
			Mainland areas	1.5 % of C.C.
			Island areas	2.0 % of C.C.
		4.	Solar Thermal Power Project	Based on market prevailing trends
		5.	Biomass Power Projects based on Rankine Cycle Technology	5 % of C.C.
		6.	Biomass Gasifier Power Projects	Based on market prevailing trends
		7.	Biogas based Power Projects	Based on market prevailing trends
		8.	Municipal Solid Waste/ Refuse Derived Fuel and based on Rankine cycle technology	
			Mainland areas	5 % of C.C.
			Island areas	6 % of C.C.
<b>13.</b>	<b>Rebate</b>	<p>1. For payment of bills to the generating company through letter of credit, a rebate of 2% shall be allowed.</p> <p>2. Where payments are made by any mode other than through letter of credit within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed.</p>		
<b>14.</b>	<b>Late payment surcharge</b>	In case the payment of any bill payable under these Regulations is delayed beyond a period of 60 days from the date of receipt of bill, a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.		
<b>15.</b>	<b>Sharing of CDM Benefits</b>	1. The proceeds of the carbon credit (if any) from approved CDM project shall be shared between generating company and concerned distribution company buying renewable power in the following manner, namely, 100% of the gross proceeds on account of CDM benefit to be retained by the project		

		<p>developer in the first year after the date of commercial operation of the generating station.</p> <p>2. In the second year, the share of the distribution company shall be 10%, which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the generating company and the distribution company.</p>				
16.	<b>Subsidy or incentive by the Central / State Government</b>	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.				
17.	<b>Taxes and Duties</b>	Taxes and duties levied by the appropriate Government / Administration shall be allowed as pass through on actual incurred basis.				
18.	<b>Auxiliary Consumption</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>Auxiliary consumption</b>		
		1.	Wind Energy Projects	0.25%		
		2.	Small Hydro projects	1.0%		
		3.	Solar PV Power Project	0.25%		
		4.	Solar Thermal Power Project	10%		
		5.	Biomass Power Projects based on Rankine Cycle Technology	During 1 <sup>st</sup> year	From 2 <sup>nd</sup> year onwards	
			using water cooled condenser	11%	10%	
			using air cooled condenser	13%	12%	
		6.	Biomass Gasifier Power Projects	10%		
		7.	Biogas based Power Projects	12%		
		8.	Municipal Solid Waste/ Refuse Derived Fuel and based on Rankine cycle technology	MSW/RDF-15%		
19.	<b>Station Heat Rate</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>Station Heat Rate</b>		
		1.	Biomass Power Projects based on Rankine Cycle Technology			
			using travelling grate boilers	4200 kcal/kWh		
			using Atmospheric Fluidised Bed Combustion (AFBC) boilers	4125 kcal/ kWh		
		2.	Municipal Solid Waste/ Refuse Derived Fuel and based on Rankine cycle technology	det. By commission		
20.	<b>Fuel cost/calorific Value</b>	<b>Sl. No.</b>	<b>RE Technology</b>	<b>Fuel Cost</b>		
		1.	Biogas based Power Projects	det. By commission		
		2.	Municipal Solid Waste/ Refuse Derived Fuel and based on Rankine cycle technology	det. By commission		