

## CERC Generic Tariff For RE Technologies For FY 2019-20

<b>HIGHLIGHTS NORMATIVE PARAMETERS</b>		
<b>Capital Cost</b>	<b>Technology</b>	
	<b>In Lakh/MW</b>	
	Small Hydro Projects	
	i) Himachal Pradesh, Uttarakhand, West Bengal, Northeast states (less than 5 MW)	1000
	ii) Himachal Pradesh, Uttarakhand, West Bengal, NE states (5 MW to 25 MW)	900
	iii) Other states (less than 5 MW)	779
	iv) Other States (5 MW to 25 MW)	707
	Biomass (Rankine cycle) power projects	
	i) Project (other than rice straw and juliflora plantation) with water-cooled condenser	559.03
	ii) Project (other than rice straw and juliflora plantation) with air-cooled condenser	600.44
	iii) Rice straw and Juliflora based project with water-cooled condenser	610.8
	iv) Rice straw and Juliflora based project with air-cooled condenser	652.2
	Non-fossil fuel-based co-generation (High-pressure boilers)	492.5
	Biomass gasifier power projects	442.88
Biogas power project	885.76	

<b>Operation &amp; Maintenance Expenses</b>	• Small Hydro plant		
		<b>Project size</b>	<b>Lakh/MW</b>
	Himachal Pradesh, Uttarakhand, West Bengal, North-East states	Below 5 MW	40.24
		5 MW to 25 MW	30.18
	Other States	Below 5 MW	32.41
		5 MW to 25 MW	23.47
<ul style="list-style-type: none"> <li>• Biomass: 44.71 lakh/MW</li> <li>• Biomass gasifier: 59.05 lakh/ MW</li> <li>• Non-fossil fuel cogeneration: 23.62 lakh/MW</li> <li>• Biogas: 59.05 lakh/ MW</li> </ul>			
<b>Capacity Utilization Factor</b>	Small Hydro		
	<b>States/UTs</b>	<b>CUF</b>	
	Himachal Pradesh, Uttarakhand, West Bengal, North-East states	45%	
	Other States	30%	

<b>Plant Load Factor</b>	<ul style="list-style-type: none"> <li>• Biomass <ul style="list-style-type: none"> <li>i) During stabilization (6 months from Date of commissioning ): 60 %</li> <li>ii) One year after stabilization: 70 %</li> <li>iii) Second-year onwards: 80%</li> </ul> </li> <li>• Biomass Gasifier: 85%</li> <li>• Biogas: 90%</li> <li>• Non-fossil fuel-based Co-generation</li> </ul>		
	<b>States</b>	<b>Operating days</b>	<b>PLF</b>
	Uttar Pradesh, Andhra Pradesh	120 (Crushing)+60 (off season)= 180	45%
	Tamil Nadu, Maharashtra	180 (Crushing)+60 (off season)= 240	60%
	Other States	150 (Crushing)+60 (off season)= 210	53 %
<b>Auxiliary Consumption</b>	<b>Power Projects</b>	<b>Auxiliary Consumption Factor</b>	
	Small Hydro	1%	
	Biomass Project		
	a) Using water-cooled condenser	During 1 <sup>st</sup> year of operation: 11% From 2 <sup>nd</sup> year onward: 10%	
	b) Using air-cooled condenser	During 1 <sup>st</sup> year of operation: 13% From 2 <sup>nd</sup> year onward: 12%	
	Non-fossil fuel Co-generation	8.5%	
	Biomass Gasifier	10%	
Biogas	12%		

<b>Station Heat Rate</b>	<ul style="list-style-type: none"> <li>Biomass power projects For projects using travelling grate boilers: 4200 kCal/kWh For projects using AFBC boilers: 4125 kCal/ kWh</li> <li>Non-fossil fuel-based Cogeneration Project - 3600 kCal / kWh</li> </ul>
<b>Calorific Value</b>	<ul style="list-style-type: none"> <li>Biomass power projects - 3100 kCal/kg</li> <li>Non-fossil fuel based Cogeneration Project - 2250 kCal / kg</li> </ul>
<b>Link</b>	<a href="http://www.cercind.gov.in/2019/orders/1-SM-2019Suo-Motu.pdf">http://www.cercind.gov.in/2019/orders/1-SM-2019Suo-Motu.pdf</a>
<b>Reference</b>	<a href="http://www.cercind.gov.in/recent_orders.html">http://www.cercind.gov.in/recent_orders.html</a>

GENERIC TARIFF FY 2019-20
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<b>Technology</b>	<b>Levelling Fixed cost (Rs/kWh)</b>	<b>Variable Cost (Rs/kWh)</b>	<b>Levelling Benefit (AD) (Rs/kWh)</b>
<b>Small Hydro Projects</b>			
Himachal Pradesh, Uttarakhand, West Bengal, North-East states(< 5 MW)	5.27		0.40
Himachal Pradesh, Uttarakhand, West Bengal, North-East States(5 to 25 MW)	4.44		0.36
Other States (less than 5 MW)	6.23		0.47
Other States (5 MW to 25 MW)	5.21		0.42
<b>Biomass Power Projects</b>			

<b>Biomass plant other than Rice straw and Juliflora with Water-cooled condenser using travelling grate boiler</b>	Andhra Pradesh	2.82	4.82	0.11
	Haryana	2.88	5.49	0.11
	Maharashtra	2.89	5.61	0.11
	Punjab	2.90	5.74	0.11
	Rajasthan	2.82	4.79	0.11
	Tamil Nadu	2.82	4.74	0.11
	Uttar Pradesh	2.83	4.91	0.11
	Others	2.85	5.16	0.11
<b>Biomass plant other than Rice straw and Juliflora with Air-cooled condenser using travelling grate boiler</b>	Andhra Pradesh	2.98	4.93	0.13
	Haryana	3.03	5.61	0.13
	Maharashtra	3.04	5.74	0.13
	Punjab	3.05	5.87	0.13
	Rajasthan	2.97	4.90	0.13
	Tamil Nadu	2.97	4.85	0.13
	Uttar Pradesh	2.98	5.02	0.13
	Others	3.01	5.28	0.13
<b>Biomass plant Rice straw and Juliflora with Water cooled condenser using travelling grate boiler</b>	Andhra Pradesh	2.93	4.82	0.13
	Haryana	2.99	5.49	0.13
	Maharashtra	3.00	5.61	0.13
	Punjab	3.01	5.74	0.13
	Rajasthan	2.93	4.79	0.13
	Tamil Nadu	2.93	4.74	0.13
	Uttar Pradesh	2.94	4.91	0.13
	Others	2.96	5.16	0.13

<b>Biomass plant Rice straw and Juliflora with Air-cooled condenser using travelling grate boiler</b>	Andhra Pradesh	3.10	4.93	0.14
	Haryana	3.15	5.61	0.14
	Maharashtra	3.16	5.74	0.14
	Punjab	3.18	5.87	0.14
	Rajasthan	3.09	4.90	0.14
	Tamil Nadu	3.09	4.85	0.14
	Uttar Pradesh	3.10	5.02	0.14
	Others	3.13	5.28	0.14

<b>Biomass plant other than Rice straw and Juliflora with Water-cooled condenser using AFBC boiler</b>	Andhra Pradesh	2.82	4.74	0.11
	Maharashtra	2.88	5.51	0.11
	Punjab	2.89	5.64	0.11
	Rajasthan	2.81	4.71	0.11
	Tamil Nadu	2.81	4.66	0.11
	Uttar Pradesh	2.82	4.82	0.11
	Others	2.84	5.07	0.11
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<b>Biomass plant other than Rice straw and Juliflora with Air-cooled condenser using AFBC boiler</b>	Andhra Pradesh	2.97	4.84	0.13
	Haryana	3.02	5.51	0.13
	Maharashtra	3.04	5.64	0.13
	Punjab	3.05	5.77	0.13
	Rajasthan	2.97	4.81	0.13
	Tamil Nadu	2.96	4.77	0.13
	Uttar Pradesh	2.98	4.93	0.13
	Others	3.00	5.18	0.13

<b>Biomass plant other than Rice straw and Juliflora with Water-cooled condenser using AFBC boiler</b>	Andhra Pradesh	2.93	4.74	0.13
	Haryana	2.96	5.39	0.13
	Maharashtra	2.99	5.51	0.13
	Punjab	3.00	5.64	0.13
	Rajasthan	2.92	4.71	0.13
	Tamil Nadu	2.92	4.66	0.13
	Uttar Pradesh	2.93	4.82	0.13
	Others	2.95	5.07	0.13
<b>Biomass plant other than Rice straw and Juliflora with Air-cooled condenser using AFBC boiler</b>	Andhra Pradesh	3.09	4.84	0.14
	Haryana	3.15	5.51	0.14
	Maharashtra	3.16	5.64	0.14
	Punjab	3.17	5.77	0.14
	Rajasthan	3.09	4.81	0.14
	Tamil Nadu	3.06	4.77	0.14
	Uttar Pradesh	3.10	4.93	0.14
	Others	3.12	5.18	0.14
<b>Non-fossil Fuel based Cogeneration</b>	Andhra Pradesh	3.23	3.13	0.17
	Haryana	2.89	4.45	0.15
	Maharashtra	2.59	4.38	0.13
	Punjab	2.85	3.91	0.15
	Rajasthan			
	Tamil Nadu	2.51	3.37	0.13
	Uttar Pradesh	3.26	3.49	0.17
	Others	2.84	3.79	0.15

<b>Biomass Gasifier Power Projects</b>	Andhra Pradesh	2.62	4.40	0.08
	Haryana	2.68	5.01	0.08
	Maharashtra	2.68	5.12	0.08
	Punjab	2.69	5.24	0.08
	Rajasthan	2.62	4.37	0.08
	Tamil Nadu	2.62	4.33	0.08
	Uttar Pradesh	2.63	4.48	0.08
	Others	2.65	4.71	0.08
<b>Biogas Power Project</b>				
<b>All India</b>		3.43	4.40	0.19
<b>Link</b>	<a href="http://www.cercind.gov.in/recent_orders.html">http://www.cercind.gov.in/recent_orders.html</a>			
<b>Reference</b>	<a href="http://www.cercind.gov.in/2019/orders/1-SM-2019Suo-Motu.pdf">http://www.cercind.gov.in/2019/orders/1-SM-2019Suo-Motu.pdf</a>			