

BERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2017

HIGHLIGHTS

Tariff Period	Technology	No. of Years
	Wind, solar PV, solar thermal	25
	Biomass Rankine cycle, biomass gasifier, biogas, non-fossil fuel based co-generation, municipal solid waste and refuse derived fuel based projects	20
	Small hydro power projects	35
Control Period	Three years, of which the first year shall be FY 2017-18.	
Useful Life of a Plant	Technology	No. of Years
	Wind, solar PV, solar thermal	25
	Biomass Rankine cycle, biomass gasifier, biogas, non-fossil fuel based co-generation, municipal solid waste and refuse derived fuel based projects	20
	Small hydro power projects	35

	Technology	Net Tariff (Rs./kWh)	
		Case I*	Case II**
Technology-wise Tariff	Solar PV	3.91	3.89
	Solar thermal	9.66	9.62
	Biomass gasifier	6.669	6.663
	Bagasse based power projects	5.76	5.75
	Municipal solid waste based on Rankine cycle	5.91	5.88
	Refuse derived fuel based on Rankine cycle	7.20	7.18
	Biomass [other than rice straw and juliflora (plantation)] based projects with air cooled condenser.	7.25	7.24
	Biomass [for rice straw and juliflora (plantation)] based projects with air cooled condenser.	7.33	7.32
	Biomass [other than rice straw and juliflora (plantation)] based projects with water cooled condenser.	7.07	7.06
	Biomass [for rice straw and juliflora (plantation)] based projects with water cooled condenser.	7.18	7.17
<ul style="list-style-type: none"> • *If project is not located in specified area as per Income Tax Notification No. 71/2015/F and No.142/13/2015-TPL vide notification dated 17 Aug 2015 for which additional depreciation allowable is 20%. • **If project is located in specified area as per Income Tax Notification No. 71/2015/F and No.142/13/2015-TPL vide notification dated 17 Aug 2015 for which additional depreciation allowable is 35% instead of 20%. 			
<ul style="list-style-type: none"> • Tariff for all other technologies is project specific. 			

Capacity Utilization Factor (CUF)/Plant Load Factor (PLF)	Technology	CUF/ PLF(%)		
	Biomass based on Rankine cycle (water cooled condenser)	Stages	PLF (%)	
		Stabilization maximum up to 6 months	60	
		After stabilization up to 1 year	70	
		Beyond 1 year	80	
	Bagasse based co-generation	Based on 210 operating days and load factor of 92%		
	Biomass gasifier	85		
	Solar PV*	19		
	Solar thermal*	23		
	MSW/RDF based on Rankine cycle	Stages	PLF (%)	
		Stabilization maximum up to 6 months	MSW	RDF
After stabilization up to 1 year		65	65	
Beyond 1 year		75	80	
* Commission may deviate in case of project specific tariff.				
Auxiliary Consumption	Technology	Aux. Cons. (%)		
	Biomass based on Rankine cycle (water cooled condenser)	Stages	Aux. Con. (%)	
		1st year	11	
		2nd year onwards	10	
	Non-fossil fuel based co-generation	8.50		
	Solar PV and rooftop solar PV*	0.25		
	Solar thermal*	10.00		
	Biomass gasifier	10.00		
MSW/RDF based on Rankine cycle	15.00			
*Commission may deviate in case of project specific tariff				

Capital Cost	Technology	Capital Cost (in Rs. lakh/MW)
	Biomass [other than rice straw and juliflora (plantation)] based projects with air cooled condenser.	600.44
	Biomass [for rice straw and juliflora (plantation)] based projects with air cooled condenser.	652.20
	Biomass [other than rice straw and juliflora (plantation)] based projects with water cooled condenser.	559.03
	Biomass [for rice straw and juliflora (plantation)] based projects with water cooled condenser.	610.80
	Non-fossil fuel based co-generation	492.50
	Solar PV including rooftop	442.18
	Biomass gasifier based on Rankine cycle	442.88 (net for FY 2017-18)
	MSW based on Rankine cycle	1500.00
	RDF based on Rankine cycle	900.00
Operation and Maintenance (O&M) Expenses	Technology	O&M Expenses (Rs. lakh/MW) FY 2017-18
	Solar PV including rooftop	07.40
	Biomass based on Rankine cycle	40.00
	Biomass gasifier	52.83
	Non-fossil fuel based co-generation	21.13
	MSW based on Rankine cycle	90.00
	RDF based on Rankine cycle	54.00
	• O&M cost shall be escalated @ of 5.72% per annum.	
Interest Rate on Loan	<ul style="list-style-type: none"> • 200 basis points above the average State Bank of India MCLR (1-year tenor) prevalent during the last available six months. • 9.983% (FY 2017-18). 	
Depreciation	7% for first 10 years and remaining depreciation spread over the remaining useful life of the project.	

Return on Equity	<ul style="list-style-type: none"> • 14% grossed up by prevailing MAT as on 1st April of the previous year. • 17.56% for FY 2017-18. 	
Interest on Working Capital	<ul style="list-style-type: none"> • 300 basis points above the average State Bank of India MCLR (1-year tenor) prevalent during the last available six months. • 10.983% 	
Station Heat Rate (SHR)	Technology	SHR (kCal/kWh)
	Biomass with Rankine cycle	3174
	Non-fossil fuel based co-generation	2250
	MSW/RDF	4200
Gross Calorific Value (GCV)	Technology	GCV (kCal/kg)
	Biomass	3200
	Bagasse based co-generation	2250
	MSW/RDF	2500
Specific Fuel Consumption (SFC)	Technology	SFC (kg/kWh)
	Biomass gasifier	1.25
Fuel Cost	Technology	Fuel Cost (Rs./MT) (FY 2017-18)
	Biomass	3073.05
	Bagasse	1964.71
	RDF	1800.00
<ul style="list-style-type: none"> • Fuel cost shall be escalated @ 5% per annum. • No fuel cost shall be allowed for MSW based projects. 		

OTHER PROVISIONS

Tariff Structure and Design	<ul style="list-style-type: none"> • Single part, levelised tariff with two components for projects having fuel cost component. • Single part levelised tariff for all other technologies.
Merit Order Dispatch Principle	All power plants except biomass power plants with capacity of 10 MW and above and non-fossil fuel based co-generation plants.
Subsidy or/and Incentives by Government	Any incentives or subsidy offered by the government including accelerated depreciation benefit shall be considered.
Taxes and Duties	Allowable as a pass-through on actual basis.
Rebate	<ul style="list-style-type: none"> • 2% for payment through Letter of Credit. • 1% for payment within 1 month of bill presentation and not through Letter of Credit.
Late Payment Interest	· 1.25% if bill is paid after 60 days from the billing date.
Banking of Solar Power	<ul style="list-style-type: none"> • Allowable against a charge of 2% of banked energy paid to BSPHCL. • Unused part of banked energy will not be allowed to be used in the subsequent year. • Drawal of banked energy shall not be allowed during peak hours.
Links	https://berc.co.in/rules-regulations/regulations/individual-regulation https://berc.co.in/orders/other-orders
References	https://berc.co.in/rules-regulations/regulations/individual-regulation/1313-terms-and-conditions-for-tariff-determination-from-renewable-energy-sources-regulations-2017 https://berc.co.in/orders/other-orders/1412-in-the-matter-of-suo-motu-proceeding-for-determination-of-generic-levelled-tariff-of-power-generated-from-renewable-energy-sources-for-fy-2017-18