

Draft JERC Tariff Determination from Renewable Energy Sources Regulation, 2019

HIGHLIGHTS

Tariff Period	Technology	No. of Years
	Municipal Solid Waste (MSW) and Refuse Derived Fuel (RDF) based power, Biomass(Rankine cycle & gasifier), Biogas, Cold plasma projects	20
	Wind, Solar PV, Solar thermal	25
	Small Hydro, Tidal energy	35
Control Period	3 years, of which the first year shall be FY 2019-20.	
Useful Life of a Plant	Technology	No. of Years
	Municipal Solid Waste (MSW) and Refuse Derived Fuel (RDF) based power, Biomass(Rankine cycle & gasifier), Biogas	20
	Wind, Solar PV, Solar thermal, Hybrid Wind & Solar	25
	Small Hydro	35

Tariff (Rs./kWh)	<p>Project-specific tariff shall be determined for the following cases:</p> <ul style="list-style-type: none"> • Solar PV (for gross metering). • Wind energy-based projects. • Small Hydro based projects. • Solar thermal • Biomass power projects based on Rankine cycle technology. • Biomass gasifier based projects. • Biogas based projects. • Municipal Solid Waste, Refuse Derived Fuel based projects with Rankine cycle technology and Cold Plasma Gasification as approved by MNRE. • Tidal power projects. • Solar PV with battery (hybrid or stand-alone). • Solar and Wind Hybrid. • Any other renewable energy technology as approved by MNRE. • As per the third proviso of Regulation 7.1 seeking Government subsidy.
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Capital Cost	All capital costs are for FY 2019-20, and the same will remain valid for the entire duration of the control period, unless reviewed earlier.	
	Technology	Capital Cost (in Rs.Crore/MW)
	Wind	<ul style="list-style-type: none"> • Mainland: 5.25 • Andaman & Nicobar: 6.25 • Lakshadweep: 7
	Small Hydro below 5 MW	<ul style="list-style-type: none"> • Mainland: 7.79 • Islands: 10.50
	Small Hydro between 5 MW and 25 MW	<ul style="list-style-type: none"> • Mainland: 7.07 • Islands: 9
	Solar PV	<ul style="list-style-type: none"> • Mainland: 5 (without subsidy) • Islands: 6 (without subsidy)
	Biomass plant on Rankine cycle	Project specific
	Solar Thermal	Project specific
	Biomass gasifier	Project specific
	Biogas	Project specific
	MSW/RDF	Project specific

Capacity Utilization Factor	Technology	CUF			
		Territory	CUF		
Wind		Goa	18%		
		Andaman & Nicobar	18%		
		Puducherry	21%		
		Lakshadweep	20%		
		Daman	19%		
		Chandigarh	18%		
		Dadra & Nagar Haveli	18%		
		Diu	26%		
		Small Hydro	30%		
			Territory	CUF	
	Goa	18%			
Solar PV		Andaman & Nicobar	17%		
		Puducherry	18%		
		Lakshadweep	17%		
		Daman	18%		
		Chandigarh	17%		
		Dadra & Nagar Haveli	18%		
		Diu	18%		
		Biomass plant on Rankine cycle	First year 70% From 2 nd year onwards 80%		
Solar thermal	Project specific				
Biomass gasifier	85%				
Biogas	90%				
MSW/RDF		Stage	MSW	RDF	
		First year	70%	65%	
		From 2nd year onwards	70%	80%	

Auxiliary Consumption	Technology	Usage		
	Wind	0.25%		
	Small hydro	1%		
	Solar PV	0.25%*		
	Biomass plant on Rankine cycle		Water cooled	Air cooled
		1 st year	11%	13%
		From 2 nd year	10%	12%
	Solar thermal	10%		
	Biomass gasifier	10%		
	Biogas	12%		
	MSW/RDF	15%		
	*The Commission may deviate from the norms in case of project specific tariff determination.			
	Operation and Maintenance (O&M) Expenses	Technology	O&M Cost % of Capital Cost FY 2019-20	
Wind		<ul style="list-style-type: none"> • Mainland: 1.5 • Islands: 2 		
Small hydro		<ul style="list-style-type: none"> • Mainland: 2 • Islands: 2.5 		
Biomass plant on Rankine cycle		5		
Solar PV		<ul style="list-style-type: none"> • Mainland: 1.5 • Islands: 2 		
Solar thermal		Project specific		
Biomass gasifier		Project specific		
Biogas		Project specific		
MSW/RDF		<ul style="list-style-type: none"> • Mainland: 5 • Islands: 6 		
O&M cost is escalated at 5.72% per annum over the tariff period.				
Interest Rate on Loans	<ul style="list-style-type: none"> • Mainland: SBI MCLR 1 yr tenor + 200 basis points. • Islands: SBI MCLR 1 yr tenor + 300 basis points. 			

Depreciation	5.83% for the first 12 years and remaining depreciation spread over the residual useful life of the project considering 10% of project cost as the salvage value of the project.						
Return on Equity	<ul style="list-style-type: none"> • Mainland: 14% • Islands: 16% To be grossed up by prevailing Minimum Alternate Tax as on 1 April of the available year at the time of determination of tariff for the entire useful life of the project.						
Interest on Working Capital	<ul style="list-style-type: none"> • Mainland: Average State Bank of India Marginal Cost of Funds based Lending Rate (one-year tenor) prevalent during the last available six months plus 300 basis points. • Islands: Average State Bank of India Marginal Cost of Funds based Lending Rate (one-year tenor) prevalent during the last available six months plus 400 basis points. 						
Station Heat Rate	Technology						
	Biomass plant on Rankine cycle	• Travelling grate boiler: 4200 kcal/kWh.					
		• AFBC boiler: 4125 kcal/kWh.					
	MSW/RDF	Project specific					
Calorific Value (Only for RDF)	Project specific						
Fuel Cost	Project specific						

OTHER PROVISIONS

Tariff Structure and Design	<ul style="list-style-type: none"> • Generic or project specific. <ul style="list-style-type: none"> - Single-part tariff for technologies not using fuel. - Single-part with fixed cost and fuel cost component for technologies using fuel. - Levelisation calculated on the useful life of renewable energy projects.
Despatch Principles	All renewable energy power plants shall be treated as 'MUST RUN' power plants and shall not be subjected to merit order despatch.

Subsidy or/and Incentives by Government	Any incentive or subsidy provided by the central or state government including accelerated depreciation benefit would be taken into consideration for determination of tariff.
Taxes and Duties	As pass-through, on actually incurred basis.
Rebate	<ul style="list-style-type: none"> • 2% - for payment through Letter of Credit. • 1% - for payments not through Letter of Credit but within 1 month from the date of presentation of bills.
Late Payment Surcharge	1.25% per month for payment of bills beyond a period of 60 days from the date of billing.
Links	http://jercuts.gov.in/
References	http://jercuts.gov.in/writereaddata/UploadFile/finalfile636933434438348145.pdf