Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations - 2017

HIGHLIGHTS

Issued By	Central Electricity Regulatory Commission
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Control Period	Three years, of which the first year shall be the financial year 2017-18
Eligibility	• Wind power projects. • Small hydro projects (lower than or equal to 25 MW at a single location). • Biomass power plant based on Rankine cycle technology (without use of fossil fuel). • Non-fossil fuel based co-generation. • Solar PV and solar thermal power projects. • Biomass gasifier-based power projects (using 100% producer gas engine, coupled with gasifier technologies). • Biogas based power projects (using 100% biogas fired engine coupled with biogas technology for co-digesting agriculture residues, manure and other bio waste). • Municipal solid waste based power projects. • Refuse derived fuel based power projects. All technology using new plant and machinery

Tariff period	Wind — 25 years Solar PV and Solar thermal power projects. — 25 years Municipal solid waste and refuse derived fuel based power projects. — 20 years Small hydro — 35 years Biomass gasifier, biogas power projects, Non-fossil fuel cogeneration project, Bio mass power project with Rankine cycle technology — 20 years
Project Specific Tariff	Project specific tariff on case-to-case basis for the following type of projects: • Solar PV and Solar Thermal; • Wind Energy (including on-shore and off-shore); • Biomass Gasifier based projects; if a project developer opts for project specific tariff. • Biogas based projects; if a project developer opts for project specific tariff. • Municipal Solid Waste and Refuse Derived Fuel based projects with Rankine cycle technology; • Hybrid Solar Thermal Power Projects; • Other hybrid projects include renewable–renewable or renewable– conventional sources, for which renewable technology is approved by MNRE; • Any other new renewable energy technologies approved by MNRE. No annual generic tariff shall be determined for these technologies. Financial and Operational norms as may be specified would be the ceiling norms while determining the project specific tariff.
Tariff Structure	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. (f) Fuel cost component to be added to the above for biomass and non-fossil cogeneration. (Single part tariff with two components - fixed cost component and fuel cost.)

Tariff Design	(i) The generic tariff shall be determined on levelised basis for the Tariff Period. For single part tariff with two components, tariff shall be determined on levelised basis, considering the year of commissioning of the project for fixed cost component, and on year of operation basis for fuel cost component. (ii) For levelised tariff computation, the discount factor equivalent to Post Tax weighted average cost of capital shall be considered. (iii) Levelisation shall be carried out for the useful life of the project, while tariff shall be specified for the period equivalent to 'Tariff Period'.
Capital Cost	• All capital works including plant and machinery, civil works, erection and commissioning, financing, interest during construction, and evacuation infrastructure up to inter-connection point. • For project specific tariff, the generating company shall submit the break-up of capital cost items along with its petition.
Debt Equity Ratio	For generic tariff based on suo motu petition it is 70:30. For project specific tariff: • If equity is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan. • If equity is less than 30%, actual equity to be considered for determination of tariff. • Equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.
Loan Tenure	13 years.
Interest Rate	Calculation for interest to be worked out on gross normative loan. • Normative loan outstanding as on 1st April of every year shall be worked out by deducting the cumulative repayment up to March 31st of the previous year, from the gross normative loan. • For the computation of tariff, the normative interest rate shall be considered as average of State Bank of India (SBI) base rate prevalent during the first six months of the previous year plus 300 basis points. • The payment of loan to commence from 1st year of commercial operation of the project and shall be equal to the annual depreciation allowed.
Depreciation	• Depreciation shall be allowed up to 90% of capital cost with salvage value as 10%. • Depreciation – 5.28% per annum for first 13 years of tariff period. Remaining depreciation to be spread over the residual useful life of the project. • Depreciation to be charged from the first year. In case commercial operation is for part of the year, depreciation to be charged on pro-rata basis.
Return on Equity	The value base for equity shall be 30% of the capital cost or actual equity (as determined in debt-equity ratio). The normative Return on Equity shall be 14% to be grossed up by prevailing (Minimum Alternate Tax) MAT as on 1st April of previous year for the entire useful life of the project.

Interest on Working Capital	<table><tr><td>Wind energy/Small hydro power/Solar PV/Solar thermal</td><td>(a) O&M expenses – for 1 month. (b) Receivables – 2 months of energy charges for sale of electricity calculated on the normative CUF. (c) Maintenance spares – 15% of O&M expenses.</td></tr><tr><td>Biomass power, municipal solid waste and refuse derived fuel, non-fossil fuel and cogeneration projects.</td><td>a) Fuel cost –4 months equivalent to normative PLF. (b) O&M expenses – for 1 month. (c) Receivables – 2 months of fixed and variable (fuel) charges for sale of electricity calculated on the target PLF. (d) Maintenance spares – 15% of O&M expenses.</td></tr></table>Interest on working capital shall be, interest rate equivalent to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months for the determination of tariff.
Calculation of CUF/PLF	The number of hours for calculation of CUF/PLF (wherever applicable) for various RE technologies shall be 8766.
Operation and Maintenance Expenses	• Comprises repair and maintenance (R&M), establishment (including employee expenses), and administrative and general expenses. • Determined, based on normative O&M expenses for the first year of Control Period. • Normative O&M expenses allowed during first year of Control Period (i.e. FY 2017-18), and shall be escalated @ 5.72% per annum over the Tariff Period.
Rebate	• For payment of bills of generating companies through letter of credit – 2%. • Payment other than through letter of credit but within 1 month of presentation of bills by generating companies – 1%.
Late Payment Surcharge.	Payment of bills beyond 60 days from the date of billing – 1. 25% per month.
Sharing of CDM Benefits	Shared between generating company and concerned beneficiaries as follows: • 1st Year - 100% by project developer after the date of commercial operation. • 2nd year – Share of beneficiaries @ 10%, to progressively increase by 10% every year up to 50%, and then to be shared in equal proportion by the generating company and the beneficiaries.
Subsidy or Incentive by the Central/State government	• To be taken into consideration, including accelerated depreciation benefit if availed, while tariff is determined. • For income tax benefit on account of accelerated depreciation, if availed, the following principles to be considered: (i) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate as per relevant provision 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 levellised basis at discount factor equivalent to post tax weighted average cost of capital.

Taxes and Duties	Tariff determined under these regulations shall be exclusive of taxes and duties as may be levied by the appropriate government provided that the taxes and duties levied by it shall be allowed as pass through on actual incurred basis.
Despatch Principles for electricity generated from Renewable Energy Sources	All RE power plants, except biomass power plants with installed capacity of 10 MW and above and non-fossil fuel based cogeneration plants, to be treated as "Must Run" power plants and shall not subjected to merit order dispatch principles. Biomass power plants of installed capacity of 10 MW and above, non-fossil fuel based cogeneration projects, municipal solid waste and refuse derived fuel, to be subjected to scheduling and dispatch code as specified under CERC (Indian Electricity Grid Code) Regulations, 2010, and CERC (Unscheduled Interchange and Related Matters) Regulations, 2009, including amendments thereto. Scheduling of wind and solar energy shall be provisions of Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Third Amendment) Regulations, 2015 and Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Second Amendment) Regulations 2015 as amended from time to time.
Links	http://www.cercind.gov.in/Current_reg.html
References	http://cercind.gov.in/2017/regulation/Noti131.pdf