

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

**(Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2013,
Dated: 15-04-2013 with amendments Dated: 15-10-2013, 20-06-2014, 21-07-2015,
09-09-2015, 29-04-2016, 08-09-2017**

Sl. No.	Description	Summary		
1.	Control Period	5 Years (FY-2013-14)		
2.	Renewable Purchase Obligation	Year	Non-Solar	Solar
		2013-14	6.00%	0.050%
		2014-15	7.00%	0.075%
		2015-16	8.00%	0.100%
		2016-17	8.00%	1.50%
		2017-18	9.50%	4.75%
		2018-19	10.25%	6.75%
3.	Obligated Entity	Distribution Licensee, Captive User(s), open Access user(s)		
4.	Tariff Period	Sr. No.	RE Technology	Tariff Period/Useful Life (in years)
		1.	Wind energy power project	25
		2.	Biomass power project including Municipal Solid Waste (MSW) and Refuse Derived Fuel (RDF) based power projects with rankine cycle technology	20
		3.	Non-fossil fuel cogeneration project	25
		4.	Small Hydro Plant	35
		5.	Solar PV/Solar thermal/grid interactive roof top and small solar PV plants /Solar PV power plants on Canal bank/Canal top	25
		6.	Biomass Gasifier based power project	25
		7.	Biogas based power project	25
5.	Tariff Structure	<p>1. The Tariff shall consist of the following fixed cost components:</p> <ul style="list-style-type: none"> (a) Return on equity; (b) Interest on loan capital; (c) Depreciation; (d) Interest on working capital; (e) Operation and maintenance expenses <p>2. For RE technologies having fuel cost component, like biomass power projects and non-fossil fuel based cogeneration, tariff with two components, namely fixed cost component and fuel cost component, shall be determined.</p>		

6.	Capital Cost	Sr. No.	RE Technology	Capital Cost (in Rs Lakhs/MW)	
		1.	Small Hydro power Projects		
			Upto 5 MW	785	
			> 5 MW & upto 15 MW	750	
			> 15 MW & upto 25 MW	715	
		2.	Biomass Power Projects based on Rankine Cycle Technology	445	
		3.	Non-fossil fuel based Cogeneration Projects	420	
		4.	Biomass Gasifier Power Projects	550	
		5.	Biogas based Power Projects	1100	
		6.	Solar PV Power Project	1000	
		7.	Canal bank Solar PV Power Plants and Canal top Solar PV Power Plants	Canal Bank Solar PV Plant	6.85
				Canal Top Solar PV Plant	7.05
		8.	Solar Thermal Power Project	1300	
9.	Grid interactive roof top and small solar PV plants	1025			
10.	Wind Energy	515			
11.	Municipal solid waste based projects	1500			
12.	Refused Derived Power plants	900			
7.	Debt Equity Ratio	70:30 If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.			
8.	Interest on Loan capital	For the purpose of computation of generic tariff, the normative interest rate shall be considered as average State Bank of India (SBI) Base Rate prevalent during the first six months of the previous year plus 300 basis points.			
9.	Depreciation	<p>1. 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.</p> <p>2. For generic tariff the depreciation rate for the first 12 years of the Tariff Period shall be 5.83% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 13th year onwards.</p>			
10.	Return on Equity	<p>1. The value base for the equity shall be as determined under Regulation 15(2).</p> <p>2. The Return on Equity shall be:</p> <p>(a) Pre-tax 20% per annum for the first 10 years.</p> <p>(b) Pre-tax 24% per annum 11th year onwards.</p>			
11.	Interest on Working Capital	Interest on Working Capital shall be at interest rate equivalent to the average State Bank of India Base Rate prevalent during the first six months of the previous year plus 350 basis points.			

12.	CDM Benefits	<ol style="list-style-type: none"> 100% of the gross proceeds on account of CDM benefit to be retained by the project developer in the first year after the date of commercial operation or commissioning of the generating station. In the second year, the share of the beneficiaries 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 beneficiaries. 		
13.	Operation and Maintenance Expenses	Sr. No.	RE Technology	O&M Cost (in Rs Lakhs/MW)
		1.	Small Hydro Power Projects Upto 5 MW	35.33
				> 5 MW & upto 15 MW
				> 15 MW & upto 25 MW
		2.	Biomass Power Projects based on Rankine Cycle Technology	25.37
		3.	Non-fossil fuel based Cogeneration Projects	16.92
		4.	Biomass Gasifier Power Projects	42.29
		5.	Biogas based Power Projects	42.29
		6.	Solar PV Power Project	11.63
		7.	Canal bank Solar PV Power Plants and Canal top Solar PV Power Plants	
				Canal Bank Solar PV Plant
				Canal Top Solar PV Plant
		8.	Solar Thermal Power Project	15.86
		9.	Grid interactive roof top and small solar PV plants	11.63
		10.	Wind energy	9.51
		11.	Municipal solid waste based projects	6% of the project cost
		12.	Refused Derived Power plants	6% of the project cost
14.	Rebate	<ol style="list-style-type: none"> For payment of bills through the letter of credit on presentation, a rebate of 2% shall be allowed. Where payments are made by a mode other than through the letter of credit but within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed. 		
15.	Late payment Surcharge	In case the payment of bills is delayed beyond a period of 60 days from the date of billing, a late payment surcharge at the rate of 1.25% per month or part thereof shall be levied by the generating company.		
16.	Subsidy or incentive by the Central / State Government	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.		
19.	Taxes and Duties	1. For generic tariff determination, the tax rate for first 10 years has been considered as 18.50% and 30% for balance period along with 5% surcharge and 3% education cess.		

		2. The taxes and duties levied by the appropriate Government other than direct taxes shall be allowed as pass through on actual incurred basis.		
20.	Capacity Utilisation factor/Plant Load factor	Sr. No.	RE Technology	CUF/PLF
		1.	Small Hydro power Projects	40%
		2.	Biomass Power Projects based on Rankine Cycle Technology	
			During the first year	65%
			From 2 nd Year onwards	80%
		3.	Non-fossil fuel based Cogeneration Projects	45%
		4.	Biomass Gasifier Power Projects	85%
		5.	Biogas based Power Projects	90%
		6.	Solar PV Power Project	19%
		7.	Canal bank Solar PV Power Plants and Canal top Solar PV Power Plants	
			Canal Bank Solar PV Plant	19%
			Canal Top Solar PV Plant	19%
		8.	Solar Thermal Power Project	23%
		9.	Grid interactive roof top and small solar PV plants	19%
		10.	Wind Energy	
			Annual Mean Wind Power (W/m ²)	
			Upto 200	20%
			201-250	22%
			251-300	25%
			301-400	30%
11.	>400	32%		
	Municipal solid Waste/Refused derived plants			
	during stabilisation & first year.	65%		
	from second year onwards	75%		
21.	Auxiliary consumption	Sr. No.	RE Technology	Auxiliary Consumption
		1.	Small Hydro power Projects	1 %
		2.	Biomass Power Projects based on Rankine Cycle Technology	10%
		3.	Biomass Gasifier Power Projects	10%
		4.	Biogas based Power Projects	12%
		5.	Solar Thermal Power Project	10%
		6.	Municipal solid Waste/Refused derived plants	15%

22.	Station Heat rate	Sr. No.	RE Technology	Quantity (kCal / kWh)
		1.	Biomass Power Projects based on Rankine Cycle Technology	4000
		2.	Non-fossil fuel based Cogeneration Projects	3600
		3.	Municipal solid Waste/Refused derived plants	4200
23.	Calorific Value	Sr. No.	RE Technology	Quantity (kCal/ kg)
		1.	Biomass Power Projects based on Rankine Cycle Technology	3300
		2.	Non-fossil fuel based Cogeneration Projects	2250
		3.	Refused Derived Fuel Plants	2500
24.	Specific Fuel Consumption	Sr. No.	RE Technology	Quantity (kg/kWh)
		1.	Biomass Gasifier Power Projects	1.25
		2.	Biogas based Power Projects	3.00
25.	Fuel Cost	Sr. No.	RE Technology	Quantity
		1.	Biomass Gasifier Power Projects	1845/MT
		2.	Biogas based Power Projects	1040/MT
25.	Solar Rooftop PV capacity	The maximum installed capacity of rooftop PV solar power plant & small solar PV plant at the premises of eligible consumer shall not be more than 500 kW.		
26.	Transmission Charges, Wheeling Charges and Losses	<ol style="list-style-type: none"> For non-discriminatory 'open access' to the intra-State transmission system for carrying the electricity generated by the RE Based Generating Stations or Co-generating Stations to the destination of use, the RE generator or the consumer, as the case may be, shall have to pay the transmission charges and wheeling charges for use of intra-state transmission system and distribution system which shall be calculated based on the principles specified in UERC (Terms and Conditions of Intra-State Open Access) Regulations, 2015. No Transmission and Wheeling Charges are payable for sale of electricity to distribution licensee or to local rural grid within the State. 		
27.	Evacuation of Power	<ol style="list-style-type: none"> Transmission Licensees and Distribution Licensees shall endeavor to provide connectivity to the RE Based Generating Stations and Co-generating Stations at nearest possible sub-station preferably within a range of 10 kilometers from the location of such generating station. In case of generating company opt to construct: The generating station may also get the work of construction of the power evacuation system carried out by State transmission/distribution licensee. Provided further that the land for extending the bay shall be provided by the owner of the sub-station free of cost. 		

28.	SLDC Surcharge	Specified in UERC (Terms and Conditions of Intra-State Open Access) Regulations, 2015.
29.	Connectivity (for Rooftop)	Roof-top Solar PV sources shall be allowed connectivity at the following voltage level in the distribution system of the licensee: (a) Load upto 4 kW: low voltage single phase supply. (b) Load >4 kW and upto 75 kW: low voltage three phase supply. (c) Load >75 kW and upto 500 kW: at 11 kV.
30.	Metering arrangement (for Rooftop)	<ol style="list-style-type: none"> Supply of electricity to the consumer(s) from the licensee's sources and that to the licensee's distribution system from the roof-top Solar PV sources shall be measured either by two separate meters, the readings of which shall be used in each billing period for settlement on net basis or alternatively by an export-import type meter suitable for directly measuring the net exchange. The cost of switch gear, metering and protection arrangement at generator end shall have to be borne by the owner of solar generators. However, Check Meter with same specification of Main Meter shall be provided by distribution licensee.
31.	Metering Arrangement	For sale to State Distribution Licensees or Local rural Grid, RE based Generating Station and Co-generating Stations shall provide meters at the point of interconnection as defined under Regulation 3(1)(v) complying with the Regulations on installation of meters specified by CEA.
32.	Energy Accounting and Billing	<ol style="list-style-type: none"> The State Load Dispatch Centre shall carry out scheduling and accounting of energy sent out by the generators and the same shall be communicated to the utilities interacting with the grid as per the scheme framed by SLDC in pursuance of the provisions of IEGC, State Grid Code and Open Access Regulations. Billing for open access transactions shall be done in accordance with the Open Access Regulations. In case of sale to the distribution licensee of the area, the power purchase agreement may provide for joint metering and in such cases, energy accounting and billing shall be done by the generating station in association with the concerned distribution licensee.
33.	Banking	(Applicable only in case of Captive Generating Plants & Non-fossil fuel based Co-generating Stations): <ol style="list-style-type: none"> Banking of energy upto 100%, as agreed between the plant and the distribution licensee, shall be allowed during the period declared by the Commission as peak hours from time to time in its Tariff Orders. Banking charges shall be 12.5% of the energy banked. In case of a Non-fossil fuel based Co-generating Stations, which is not a captive generating plant, the facility of banking shall apply only if it has a PPA with the distribution licensee in the State.