

Commission's Decision:

The Commission, in its earlier tariff Orders had considered CUF of 19% for solar photovoltaic plants. The Commission notes that the CUF of Solar Plants would vary based on the irradiation profile and other parameters prevailing in the locations and not based on the energy generation of the solar plant as suggested by some stakeholders. The irradiation profile depends upon power projects that are taken up, based on studies at specific locations and their economic viability. Selection of locations with higher CUF would benefit the grid and also the investor. Commissioning of the Solar Power Plants in suboptimal locations results in a lower CUF which is not in the interest of the investors/Prosumers. In any case, while determining generic tariff, locational disadvantages of a few plants cannot be generalised and factored.

The Commission is of the view that, since the available technologies are yet to establish the exact CUF supported by adequate data, the Commission needs to consider a reasonable CUF, to balance the interest of the investors as well as the consumers. Hence, based on the earlier Orders, the Commission hereby decides to adopt a CUF of 19% for solar Plants (both ground mounted and SRTPV Plants) and directs the KREDL to conduct a study on irradiation profile and other parameters prevailing in the locations of the Karnataka, not based on the energy generation of the solar plant and to submit the report to the Commission on or before 30.09.2024.

v) Debt Equity Ratio:

For determination of Generic Tariff keeping in view, the tariff policy, industry norms and earlier orders, the Commission has proposed to continue the debt equity ratio of 70:30 for all the Solar Power Plants. Since, none of the stakeholders

have suggested any changes in the debt equity ratio, the Commission decides to continue the Debt-Equity ratio of 70:30 for determination of Generic Tariff.

vi) Capital Cost:

The Commission, in its earlier Order dated 01.06.2023 has decided to adopt the following capital cost for:

1. 1kW to 10 kW SRTPV project (domestic consumer) at Rs. 50,000 per kW
2. 1 kW to 2000 kW SRTPV project (other than SRTPV consumer covered under (1)) at Rs. 40,000 per kW.
3. MW Scale solar projects and ground mounted solar projects at Rs. 400 Lakhs per MW

In the discussion paper the Commission had proposed to consider the following capital cost based on the latest market rates. After considering the market rates, the Commission proposes the following capital cost

1. 1kW to 10 kW SRTPV project (domestic consumer) at Rs. 40,000 per kW
2. 1 kW to 2000 kW SRTPV project (other than SRTPV consumer covered under (1)) at Rs. 32,300 per kW.
3. Ground mounted solar projects at Rs. 323 Lakhs per MW.

Suggestions from the stake holders:

The BESCOM has requested to review the capital cost of Rs 323 Lakhs per MW for 5 MW to 10 MW ground mounted solar PV plants.

Ravishankar S, Ampoct has submitted to the Commission that the cost arrived of Rs. 3.23 Crores per MW will not suffice. The BOQ submitted in the written statement that all the materials are essential to construct the 1 MW solar plant with capital cost of Rs. 5.85 Crores.

Commission's Decision:

The capital cost of Rs. 323 lakhs per MW was proposed in the discussion paper based on the market prices as on 12.03.2024 available on the website-PV Insight, a network of reliable price information contributors of actual prices and sales contracts of solar PV components. The average module cost was Rs. 8.90 per watt. The average of 6 month's USD rate as per RBI has been considered. The Commission also notes that there is an increase in the cost of civil works, mounting structure, power conditioning unit, evacuation lines, equipment, general works etc., hence, the increase of 5.72% is considered from the previous tariff order.

As per the ministry of New & Renewable Energy (MNRE) Notification dated 09.03.2021 and 27.09.2022, the applicable rate of basic customs duty is 40% for solar modules and 25% for cells with effect from 01.04.2022. The imposition of Basic Customs Duty (BCD) as per above rates shall not be considered as change in law and RE implementing Agencies, stakeholders are required to take these BCD rates into account while quoting the tariff in the bidding process.

Considering the increase in the costs as discussed above, the Commission has considered capital cost of Rs.323 Lakhs per MW for determination of tariff, by considering the Basic Customs Duty at the rate of 40% wherein GST of 70% of the goods value shall be deemed to be the value of supply of said goods attracting 12% rate effective from 1st October 2021. The remaining portion (30%) of the aggregate value of such EPC contract shall be deemed to be the value of supply of taxable service attracting standard GST rate of 18%, which needs to be considered for computation

of GST for service by way of construction or engineering or installation or other technical services, provided in relation to setting up of solar power generating system.

The Commission has proposed in the discussion paper that the solar rooftop consumers may install Solar Capacity upto their sanctioned load and has proposed to remove the capacity cap of 2000 kW. Hence, in respect of SRTPV plants of 1 kW capacity upto sanctioned load other than domestic consumers has been computed as Rs. 32,300 per kW considering the capital cost of MW scale projects on a prorate basis.

The Commission further notes that the payment of the BCD amount if any, for the above SRTPV consumers will be determined by the concerned ESCOMs on production of documents thereon for actual payment of BCD made to the competent authority by the Generators/Developers. This amount will be paid to the Generator/developer by the concerned ESCOMs by spreading the actual BCD incurred, over the Tariff period as per the PPA, every year by cash, without carrying cost, on annuity basis during the month of April of the subsequent financial year.

The Commission further notes that the smaller consumers have not shown much interest in installing SRTPV units on their rooftops, even though the potential for installation of smaller capacity SRTPV units, especially by the domestic consumers, is substantial, since the installation of SRTPV plants benefits both the consumers and the distribution licensees. Hence, to encourage the domestic consumers for 1kW to 10KW to put up SRTPV projects, the Commission has considered capital cost of Rs. 40,000 per kW, which is inclusive of all taxes, Duties and GST and extra premia.

The Commission, therefore, decides to adopt the capital cost per MW, for ground mounted solar projects, as follows:

Capital Cost for Solar Power Plants		
Sl.No	Particulars	FY25
1	Average Module cost-USD/Watt peak	0.108
2	Average of 6 months USD in Rs. as per RBI	82.45
3	Cost of Solar Module in Rs./watt	8.90
4	Cost of Solar Module in Rs. Lakhs/MW	89.05
5	As per MNRE official Memorandum dated 9 th March, 2021 the imposition of Basic Custom Duty (BCD) for solar module w.e.f.01.04.2022 of 40% in Rs lakh	35.62
6	Cost in Rs Lakhs/MW (before GST)	124.66
7	Civil and General Works, Mounting Structure, Power Conditioning Unit, Evacuation Lines & Equipment preliminary and preoperative expenses IDC etc., Rs Lakhs/MW	172.49
8	Total Capital Cost in Rs Lakhs/MW	297.15
9	GST of 12% for 70% of the total cost (supply of solar modules and its accessories, as per clarification issued by Ministry of Finance (MoF) Government of India dated 22.12.2018/01.10.2021 in Rs. Lakhs per MW	24.96
10	GST of 18% for 30% of the total cost of the project as per clarification issued by Ministry of Finance (MoF) Government of India dated 22.12.2018 in Rs. Lakhs per MW	16.05
11	Total cost of the project Rs Lakhs per MW	338.16
12	Land cost of the project Rs Lakhs per MW	25
13	Total Cost of the Project including land cost in Rs Lakhs	363.16
14	Less: The BCD and GST on the capital cost, to be reimbursed on production of proof of payment of the BCD by the generators/developers in Rs Lakhs per MW.	40.53
15	Total Capital cost considered for determination in of Tariff in Rs. Lakhs per MW	322.63 rounded off to 323.00

Accordingly, the Commission hereby decides to adopt the following capital cost for:

1. 1kW to 10kW SRTPV project (domestic consumer) at Rs. 40,000 per kW.
2. 1 kW to upto the consumer's sanctioned load, SRTPV project (other than SRTPV consumer covered under (1)) at Rs. 32300 per kW.
3. Ground mounted solar projects at Rs. 323 Lakhs per MW.

vii) Operation & Maintenance Cost:

In the discussion paper the Commission had proposed O&M expenses at Rs.748.50/kW for SRTPV units and at Rs. 5.624 lakh/MW for ground mounted Megawatt Scale solar plants duly considering the inflation in the O&M costs.

The BESCO has suggested to consider O&M cost as Rs 3 lakhs per MW for first year with an annual escalation of 3.84% per annum.

Commission's Decision:

The Commission notes that the stakeholders have submitted the proposal for O&M expenses without substantiating the reasons and without submitting document for consideration. The operation and maintenance cost consists of employee cost, administrative & general expenses and Repairs & Maintenance expenses (R&M). The Commission, in its earlier Orders, had considered O&M expenses at Rs.670/kW for SRTPV units and at Rs.5.03 lakh/MW for ground mounted Megawatt Scale solar plants, with an annual escalation of 5.72%. The Commission, after considering the inflation factor, decides to allow O&M expenses at Rs.748.50/kW for SRTPV units and at Rs.5.624 lakh/MW for ground mounted Megawatt Scale solar plants, with an annual escalation of 5.72%.

viii) Interest and Tenure of Debt:

In the discussion paper the Commission had proposed the normative tenure of long term debt/loans as 13 years and to allow the interest on loan at 10.85% per annum.

The PCKL has proposed to consider the interest rate on loan as 10% p.a. and tenure of long term debt/loans as 15 years.

The BESCOM has proposed to consider the interest rate on loan as 9% p.a

Commission's Decision:

Considering the prevalent lending rate being the Marginal Cost of Funds-Based Lending Rate (MCLR) at which the bank charges interest for all its loans, the Commission proposes to adopt the latest MCLR of 3 years of 8.85% per annum notified by the State Bank of India plus 200 basis points, which works out to 10.85% per annum.

Therefore, the Commission decides to adopt interest rate of 10.85% per annum for 13 years' loan period.

ix) Working Capital and Interest on Working Capital:

In the discussion paper the Commission had proposed one month's receivables for SRTPV Projects and Two Months' receivables for MW scales Ground Mounted Solar Projects and to allow interest on working capital at the rate of 11.15% p.a. the stakeholders have not suggested any change in the proposed interest rate for working capital.

Commission's Decision:

The Marginal Cost of Funds-Based Lending Rate(MCLR) is the rate at which the bank prices all its loans. The Commission, in view of the massive reduction in the interest rates being charged on the loans by the banking sector, decides to adopt the latest MCLR of 1 year of 8.65% notified by the State Bank of India plus 250 points which will be 11.15% per annum.

The Commission therefore decides to allow 11.15% per annum as the interest rate for calculating the Interest on Working Capital, equal to one