

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 18 of 2026 (Suo-Motu)

In the matter of:

Review of the Benchmark Capital Cost for Solar PV, Solar Thermal, Battery Energy Storage System and Grid Interactive Rooftop & Small Solar PV Plants to be applicable for FY 2026-27 and onwards till reviewed/revised by the Commission.

CORAM

Shri M. L. Prasad	Chairman
Shri Anurag Sharma	Member (Law)
Shri Prabhat Kishor Dimri	Member (Technical)

Date of Order: April 07, 2026

1. The Commission in exercise of powers vested in it under Section 61(h), 86(1)(e) read with Section 181(2)(zd) of the Electricity Act, 2003, notified the UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2023 (hereinafter referred to as "RE Regulations, 2023") on 16.08.2023 which came into force from the date of notification and shall remain in force for a period of 5 years from the date of commencement until reviewed earlier or extended by the Commission. Subsequently, the Commission notified the UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) (Second Amendment) Regulations, 2025, whereby provisions relating to Battery Energy Storage System (BESS) were inserted in the RE Regulations, 2023.
2. Regulation 12 of the RE Regulations, 2023 specifies as under:

"12. Control Period or Review Period

The Control Period or Review Period under these Regulations shall be of five years, of which the first year shall be the financial year 2023-24.

Provided that the benchmark capital cost of Solar PV, Canal Bank & Canal Top Solar PV, Solar Thermal,

Municipal Solid Waste based power projects, Refuse Derived Fuel based power projects, Battery Energy Storage System and Grid interactive Roof Top and Small Solar PV projects may be reviewed annually by the Commission.

Provided further that the tariff determined as per these Regulations for the RE projects commissioned during the Control Period, shall continue to be applicable for the entire Tariff Period."

3. Having due consideration of the fact that with the passage of time and up-gradation of technologies in respect of the aforesaid solar projects, change in capital cost has been observed. Moreover, in discharge of the requirement of Regulation 12 of the RE Regulations, 2023, the Commission has decided to lay down the norm for the benchmark capital cost and generic tariff for the Solar PV, Solar Thermal Projects and Grid connected Rooftop & Small Solar PV projects and Battery Energy Storage System to be commissioned during FY 2026-27 as elaborated in **Annexure-A** enclosed herewith.
4. Comments/suggestions of the stakeholders on the draft proposal are invited latest by **04.05.2026**.

(Prabhat Kishor Dimri)
Member (Technical)

(Anurag Sharma)
Member (Law)

(M.L. Prasad)
Chairman

A. Normative benchmark capital cost for Solar PV, Canal Bank, Canal Top Solar PV Plants, Solar Thermal technologies and Grid Interactive Rooftop & Small Solar PV Plants to be commissioned during FY 2026-27.

1. In accordance with Regulation 34, 35, 36 & 37 of the RE Regulations, 2023 as amended from time to time, the normative capital cost for Solar PV, Solar Thermal and Grid Interactive Rooftop & Small Solar PV Plants is inclusive of all the capital works including plant and machinery, civil works, erection and commissioning, financing and interest during construction etc., and evacuation infrastructure upto the interconnection point.
2. Regulation 12 of the RE Regulations, 2023 specifies that the benchmark capital cost for Solar PV, Canal Bank & Canal Top Solar PV, and Solar Thermal Power Plants and Grid Interactive Rooftop & Small Solar PV Plants and BESS may be reviewed annually by the Commission.
3. The proposed benchmark capital cost for the above referred technologies for FY 2026-27 and onwards are discussed below:

I. Solar PV Power Plants

4. With the increasing demand for power from highly diversified generation sources, there is rapid development in solar power sector in terms of investments, technology and innovations. The benign policies of the Central Government and the State Governments have made it possible for local, national and international players to participate in the Indian power markets. Such positive developments in Solar power market have resulted in healthy competition resulting in drastic reduction in the cost of solar power generation, thereby the end consumers of electricity stand to benefit by cheaper and environmentally friendly source of power generation.
5. As per Section 61 of the Electricity Act, 2003 (the Act), the appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff. Accordingly, taking cognizance of the potential of Solar Power Plant growth available in the State and in accordance with Section 61 of the Act, the Commission has followed the similar principles as had been considered in the previous Orders for determination of benchmark capital cost for solar energy based power plants.

Capital Cost & Generic Tariff

6. The Commission through Suo-moto Order dated 20.08.2025 had specified the benchmark capital cost of Rs. 278.40 Lakh/MW for Solar PV plants commissioned or likely to be commissioned in FY 2025-26. The Commission while specifying the benchmark capital cost for FY 2025-26 had considered module cost as 0.068 USD/Wp and exchange rate of Rs. 85.68/USD for determination of benchmark capital cost for FY 2025-26. Further, the Commission had considered a degradation of 0.50% on yearly basis, which was then applied to the module cost to arrive at yearly degradation cost, followed by discounting to arrive at the net present value of that degradation cost. Accordingly, considering the module cost, average exchange rate and annual degradation, the Commission had arrived at the module cost of Rs. 81.84 Lakh/MW for FY 2025-26.

The breakup of benchmark capital cost determined by the Commission for FY 2025-26 is as under:

Table 1: Benchmark Capital Cost of Solar PV Project

SI. No.	Particular	Capital cost Norm for Solar PV project (Rs. Lakh/MW)
1	PV Modules	81.84
2	Land Cost	40.00
3	Civil and General works, Mounting Structures, Power Conditioning Unit, Cables and Transformers and Preliminary & Pre-operative expenses IDC, taxes etc.	156.56
	Total	278.40

7. The Commission has considered the following factors while determining the benchmark capital cost for FY 2026-27:-

- a) The Commission has considered the rates of Mono PERC Solar Modules to arrive at the benchmarked normative cost of modules.
- b) The Commission has considered the applicable GST and custom duty.
- c) Consumer Price Indexation and Wholesale Price Indexation to be applied.
- d) Degradation of the Solar Modules.
- e) Escalating the cost of other civil & mounting works and equipment by average of last

three years CPI and WPI.

8. The Commission while proposing the benchmark capital cost for FY 2026-27 has considered current average price of Modules is 0.081 USD/Watt and exchange rate of Rs. 92.28/USD. Further, the Commission has considered a degradation of 0.50% on yearly basis, which is then applied to the module cost to arrive at yearly degradation cost, followed by discounting to arrive at the net present value of that degradation cost. Accordingly, considering the module cost, average exchange rate, annual degradation and custom duty, the Commission proposes the module cost of Rs. 92.17 Lakh/MW for FY 2026-27.

It is pertinent to mention that the CUF of 19% was fixed considering Poly Silicon Solar Module and Thin Film Solar Module. However, in the present Order, the Commission proposes to consider Mono PERC Solar Module which is an advance technology in comparison to Thin film Solar Module which must result into higher CUF reflecting higher generation from the said modules actually. Moreover, the Commission has considered the spot prices which are generally on a higher side, and the developers will have the benefit of economies of scale on bulk purchases as well as it can enjoy the bulk purchase discount. Further, cost proposed for FY 2025-26 pertaining to civil work, mounting structure and other equipment have been escalated with applicable CPI & WPI alongwith the applicable GST.

9. In light of the above discussions, the Commission proposes the capital cost of Rs. 285.32 Lakh/MW for Solar PV projects to be commissioned on or after 01.04.2026. Detailed breakup of the capital cost is as follows:

Table 2: Proposed Benchmark Capital Cost of Solar PV Project

S. No.	Particulars	Capital Cost (Rs. Lakh/MW)
1.	PV Modules	92.17
2.	Land Cost	40.00
3.	Civil work mounting structure Power conditioning unit etc. and IDC/IEDC, taxes & contingency etc.	153.15
	Total Capital Cost	285.32

10. Based on the benchmark capital cost, as proposed above, the Commission proposes the generic tariff of Rs. 3.96/kWh, to be applicable for Solar PV plants to be commissioned in FY 2026-27.

Further, it has been observed that the Government of India/Government of

Uttarakhand provides financial incentives to the developers for establishment of renewable and green energy plants in Uttarakhand. Accordingly, where any kind of subsidy or incentive or rebate is allowable to the solar power plant developer, the Gross tariff and Net tariff of Solar PV shall decrease by 1.59 Paise/kWh and 1.49 Paise/kWh respectively for every one percent of capital subsidy as determined based on the benchmark capital cost determined by the Commission in this Order. The same can be understood from the illustration given below:

Illustration:-

Table 3: Illustration demonstrating adjustment of subsidy in approved tariff for Solar PV plant

S. No.	Subsidy (in %)	Subsidy (Rs./kWh)	Applicable Tariff
1.	0%	Tariff = Rs. 0.0149/kWh*0 = 0	Tariff = Rs. 3.96/kWh
2.	26%	Tariff = Rs. 0.0149/kWh*26 = 0.39	Tariff = Rs. (3.96 - 0.39) = Rs. 3.57/kWh

II. Canal Bank Solar PV Plants and Canal Top Solar PV Plants

11. Canal Top and Canal Bank Solar PV projects provide an opportunity for generation of renewable energy while optimally utilizing the existing canal infrastructure. Such projects reduce the requirement of additional land for development of solar power plants and enable efficient use of available infrastructure. Considering the geographical characteristics of the State and the availability of canal networks, development of Canal Top and Canal Bank Solar PV plants can contribute towards enhancing renewable energy capacity in the State.
12. The Commission notes that Canal Top / Canal Bank Solar PV projects involve additional structural requirements and higher installation costs compared to ground mounted solar PV plants due to specialized mounting structures and civil works over canal infrastructure. Therefore, the benchmark capital cost for such projects is generally higher than the conventional Solar PV projects.
13. In accordance with Regulation 35 of the RE Regulations, 2023 as amended from time to time, the Commission proposes to determine the benchmark capital cost for Canal Bank Solar PV Plants and Canal Top Solar PV Plants considering the prevailing market conditions, while retaining the other normative parameters specified in the Regulations.

14. Accordingly, in accordance with the norms specified in the RE Regulations, 2023 and considering the prevailing market conditions, the Commission proposes the following benchmark capital cost and corresponding generic tariff for Canal Bank Solar PV Plants and Canal Top Solar PV Plants to be commissioned during FY 2026-27:

Table 4: Proposed Benchmark Capital Cost and Generic Tariffs for Canal Bank Solar PV Plants and Canal Top Solar PV Plants

Particulars	Canal Bank SPV	Canal Top SPV
Capital Cost (Rs. Lakh/MW)	300.00	320.00
Generic Tariff (Rs./kWh)	4.09	4.26

III. Solar Thermal Power Plants

15. The Commission proposes to adopt the benchmark Capital Cost as Rs. 1200.00 Lakh/MW for Solar Thermal Projects to be commissioned on or after 01.04.2026.
16. Based on the benchmark capital cost, as proposed above, the Commission determines the generic tariff to be applicable for Solar Thermal plants to be commissioned in FY 2026-27 as Rs. 11.95/kWh.

IV. Grid Interactive Rooftop & Small Solar PV plants (GRPV & GSPV)

17. The Commission had fixed the generic tariff for Solar PV plants installed under net metering arrangement as Rs. 2.00/kWh for FY 2025-26. The Commission proposes to continue the same tariff of Rs. 2.00/kWh for GRPV/GSPV plants to be commissioned during FY 2026-27.

B. Normative benchmark capital cost for Battery Energy Storage System to be commissioned during FY 2026-27

18. In accordance with Regulation 39A of the RE Regulations (Second Amendment), 2025, the technology specific parameters for determination of generic tariff for Battery Energy Storage System (BESS) shall be based on the following normative factors, namely, Capital Cost (Rs./Lakh per MWh), Operation and Maintenance (O&M) expenses, Normative Annual Availability and Degradation for the tariff period.
19. There is rapid development in energy storage technologies in terms of investments, technological advancements and deployment models. The policy initiatives of the Central Government and various State Governments, including provision of Viability Gap Funding (VGF) for Battery Energy Storage Systems, have encouraged adoption of such systems to

support renewable energy integration, peak load management and grid stability. Such developments in the energy storage sector are expected to enhance system reliability, optimise power procurement and ensure efficient utilisation of renewable energy resources, thereby benefiting the consumers through improved quality and security of supply.

20. Based on the technology specific parameters specified above and in accordance with the provisions of the RE Regulations, 2023 as amended from time to time, the Commission hereby tentatively proposes the capital cost of Rs. 160.00 Lakh/MW and the generic tariff for Battery Energy Storage System (BESS) of Rs. 2,54,583/MW/Month for the projects to be commissioned on or after 01.04.2026. The tariff so determined shall be applicable for the entire tariff period and shall remain in force until reviewed or revised by the Commission.