



**Draft**

**on**

**Uttarakhand State Solar Policy**

**Government of Uttarakhand**

**2022**

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## Abbreviations

<b>AAI</b>	Airports Authority of India
<b>CAPEX</b>	Capital Expenditure
<b>CGTMSE</b>	Credit Guarantee Trust for Micro and Small Enterprise
<b>C&amp;I</b>	Commercial and Industrial
<b>DISCOM</b>	Distribution company
<b>DRE</b>	Decentralised Renewable Energy
<b>DSS</b>	Distribution sub-station
<b>EOI</b>	Expression of Interest
<b>EV</b>	Electric Vehicle
<b>kW</b>	Kilo Watt
<b>MoRD</b>	Ministry of Rural Development
<b>MW</b>	Mega Watt
<b>NABARD</b>	National Bank for Agriculture and Rural Development
<b>NBFC</b>	Non-Banking Financial Company
<b>NIRD</b>	National Institute of Rural Development
<b>NISE</b>	National Institute of Solar Energy
<b>NOC</b>	No Objection Certificate
<b>NSDC</b>	National Skill Development Corporation
<b>OPEX</b>	Operating Expenditure
<b>P2P</b>	Peer-to-Peer
<b>PCCF</b>	Principal Chief Conservator of Forests
<b>PDC</b>	Post Dated Cheque
<b>PFC</b>	Power Financial Corporation
<b>PPA</b>	Power Purchase Agreement
<b>PSM</b>	Payment Security Mechanism
<b>PTCUL</b>	Power Transmission Corporation of Uttarakhand Ltd
<b>R&amp;D</b>	research and development
<b>REC</b>	Renewable Energy Certificate
<b>RESCO</b>	Renewable Energy Service Company

<b>RFP</b>	Request for proposal
<b>ROW</b>	Right-of-way
<b>RPO</b>	Renewable Purchase Obligation
<b>SCGJ</b>	Skill Council for Green Jobs
<b>SGST</b>	State Goods and Services Tax
<b>SLDC</b>	State Load Dispatch Center
<b>SLEC</b>	State Level Empowered Committee
<b>SLSC</b>	State Level Screening Committee
<b>SOP</b>	Standard operating procedure
<b>SPPD</b>	Solar Power Park Developer
<b>SRLM</b>	State Rural Livelihood Mission
<b>Transco</b>	Transmission Corporation
<b>UERC</b>	Uttarakhand Electricity Regulatory Commission
<b>UPCL</b>	Uttarakhand Power Corporation Limited
<b>UREDA</b>	Uttarakhand Renewable Energy Development Agency
<b>USPLAC</b>	Uttarakhand Solar Power Land Allotment Committee
<b>VLC</b>	Village level committee
<b>VNM</b>	Virtual Net metering

## Glossary

1. "Act" means Electricity Act 2003, including amendments thereto.
2. "Agrovoltaic projects" refer to solar power plants set up on cultivable or non-cultivable agricultural land.
3. "Central Agency" means National Load Dispatch Centre (NLDC) as designated by the Central Electricity Regulatory Commission vide order dated 29.01.2010 for the purposes of the REC Regulations.
4. "Discom" means a distribution licensee of Uttarakhand.
5. "Effective Date" means the date on which the PPA agreement will come into effect.
6. "Government" and "State" means the Government of Uttarakhand and the State of Uttarakhand, respectively.
7. "Green Tariff" is the regulated tariff at which willing consumers can accept procurement of power from renewable energy resources.
8. "Licensee" includes a person deemed to be a licensee under Section 14 of the Act.
9. "MNRE" means Ministry of New and Renewable Energy, nodal Ministry of the Government of India for all matters relating to new and renewable energy.
10. "Nodal Agency" means State Nodal Agency, UREDA.
11. "Policy" means Uttarakhand State Solar Policy 2022.

12. "Renewable Energy Certificate" or "REC" means the Renewable Energy Certificate issued by the Central Agency in accordance with the procedure prescribed by it and under the provision specified in the Central Electricity Regulatory Commission (Terms & Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulation, 2016.
13. "RE Park Developer" means a person or an entity who develops land and other common infrastructure for the installation of Renewable Energy based Projects. The RE Park Developer can also install generation plants on the land developed, as per the provisions of the applicable policy.
14. "REC Regulation" or "CERC REC Regulation" means Central Electricity Regulatory Commission (Terms & Conditions for recognition and issuances of Renewable Energy Certificate for Renewable Energy Generation) Regulation, 2016, notified by CERC vide notification dated 28.03.2016 and amended from time to time.
15. "Renewable Energy Sources" (RES) means
  1. solar radiation, wind, small/mini hydro, biomass, biofuels, biogas, landfill gas, sewage gas, geothermal energy, ocean energy, and combinations thereof;
  2. any other sources of energy as may be notified by the Central Government from time to time;
  3. any combination, as may be notified by the Central Government, of the sources specified in sub-clauses (a) or (b) with other sources of energy.
16. Rooftop solar power plants refer to solar PV systems installed either on the rooftop or on the ground within the premises of the consumer.
17. "Solar Power Producer" means an entity which owns facilities to generate electric power for sale to Discom of Uttarakhand/Licensees/to third party/captive use.
18. "Tariff" means the schedule of charges for generation, transmission, wheeling and supply of electricity together with terms and conditions for application thereof.
19. "Virtual Net Metering" means an arrangement whereby the entire energy generated/injected from a renewable energy system or battery energy storage system (BESS) charged through renewable energy is exported to the grid from a renewable energy meter/ gross meter. The exported energy is adjusted in more than one electricity service connection (s) of participating consumers located within the same distribution licensee's area of supply.
20. "Waste Land" or "unused lands" means the land which is presently not in use for any productive activities, nor there is any planning (either approved or in the process of approval) of productive use for the upcoming 25 years.

## **1. Preamble**

In the Himalayan belt of northern India, Uttarakhand (“State”) is a state that is known for its natural beauty, religious significance, and some of India’s richest forests and biodiversity. However, this natural heritage would be at risk due to the increasing impact of global warming and climate change. The state recognises the urgent need to act on climate change by reducing dependence on fossil fuels and adopting cleaner forms of energy that lead to energy security and inclusive growth of its economy.

The current solar policy focuses on accelerating solar deployment through utility-scale projects. Under the current solar policy, the state has achieved approximately 575 MW by 2022. Going forward, the state aims to harness the potential of renewables in meeting its jobs, growth and sustainability objectives. By leveraging the solar potential, the state will emphasise adopting clean energy pathways and diversifying energy mix to further its objectives of preserving natural ecosystems, boosting livelihood prospects, improving quality of life for its population, and ensuring resilient infrastructure growth. Going forward, Uttarakhand will require innovative energy solutions to address the growing power demand and leverage economic opportunities. With uneven geographical terrain, low solar irradiance, and snowfall that cuts off villages for months, distributed renewable energy systems, supported by energy storage and resilient distribution grids, will be required to provide energy security while meeting sustainable development goals.

With this focus, the state commits to accelerating the growth of solar energy in the state through the implementation of distributed solar systems and innovative business models and pushing for greater adoption of solar applications in the residential, agriculture, commercial, and industrial sectors. The state aims to adopt a targeted, systematic, streamlined, and transparent approach to scaling up the share of solar in its energy mix and reap the various socio-economic, health and environmental benefits it offers.

## **2. Vision**

The state envisions championing the clean energy transition by bringing solar energy from the margins to the mainstream. The policy intends to accelerate solar energy deployment by harnessing the potential of distributed solar in different consumer segments, strengthening the institutional infrastructure, promoting innovative business models, scaling up rural livelihood applications, and supporting eco-tourism. It further strives to leverage the potential of solar energy to improve the resilience of the power system, reliability and quality of electricity supply, boost rural incomes, strengthen education and health services, promote inclusive and sustainable economic growth and create livelihood opportunities for youth and women.

## **3. Regulatory Framework**

The policy would be called Uttarakhand State Solar Power Policy 2022.

Several provisions under the Electricity Act, 2003 (Act) mandate the Uttarakhand State Electricity Regulatory Commission (UERC) and the Government to take necessary steps to promote renewable energy. Section 108 of the Act mandates the State Government to give directions to the State Electricity Commissions in the matter of policy involving public interest. Accordingly, the State Government, in the exercise of its powers, formulates this policy. This policy supersedes the Uttarakhand Solar Energy Policy 2013 and all amendments thereto.

#### 4. Objectives:

This policy outlines the following objectives to meet the state’s vision:

- Reach a cumulative capacity of 2000 MW in the state and increase the share of solar electricity in Discom’s energy purchase to 18% by 2028 through a diversified project portfolio across consumer categories, locations and applications.
- Accelerate investment in solar through new deployment mechanisms, including improved processes, incentives and business models.
- Provide reliable access to electricity to rural consumers in remote areas by promoting solar plus storage solutions
- Support the development of solar-based livelihood applications and employment opportunities and foster an entrepreneurial ecosystem in the state.
- Create opportunities for tourism to be part of the energy transition by offering incentives and innovative business models.
- Showcase the potential of agro-photovoltaics to boost agricultural income in the state.
- Provide training for skill development with a special focus on communities at risk to create employment opportunities through solar project deployment.

#### 5. Operative Period

The policy would come into operation from the notification date and remain valid for five years unless superseded by any other policy.

#### 6. Target

The policy promotes a diversified project portfolio spanning across various consumer categories and applications. There are two broad project categories: utility-scale solar and distributed solar. The distributed solar is further disaggregated based on consumer categories as indicated below:

Project Categories	Utility Scale Solar	Distributed Solar				Total
		Residential	Commercial and Industrial	Institutional	Agriculture	
<b>Cumulative Target (MW)</b>	600	250	750	350	50	<b>2000</b>

#### 7. Key provisions to achieve policy targets

##### 7.1 Applicability

Solar power plants commissioned or power purchase agreement (PPA) signed in the operative period of the policy shall be eligible for incentives declared under this policy, for a period of 25 years from the date of scheduled commissioning, unless otherwise mentioned.



## 7.2 Green Tariff

- UPCL shall create provisions for all interest and obligated consumers to procure clean electricity from renewable energy sources at pre-determined tariff rates, also called 'Green Tariff'.
- UERC shall introduce amendments to 'Green Tariff' regulations by allowing all electricity consumers to opt for green energy. To encourage consumers to switch towards green energy and become early movers, economically attractive green tariff rates shall be announced by UERC.
- In cases of obligated consumers/entities under Renewable Purchase Obligation (RPO) Regulations, the renewable energy certificate (REC) benefit shall be transferred to the consumer.
- Green energy procured by non-obligated entities shall be considered towards RPO fulfilment of Uttarakhand Discom.

## 7.3 Feed-in-tariff

UERC shall introduce feed-in-tariff for distributed solar power plants set up by residential, agricultural and government and institutional consumers to compensate for excess generation fed into the grid. UERC may introduce time-of-the-use solar energy feed-in tariffs to encourage solar energy producers and storage operators to feed energy into the grid during peak demand hours.

## 7.4 Virtual and Group Net Metering

UERC shall introduce regulations associated with Virtual net-metering (VNM) and Group net-metering (GNM) to promote and facilitate solar adoption among eligible consumers (especially having constraints like access to adequate rooftop area/inaccessible rooftops, etc. and entities having multiple electricity connections).

## 7.5 Banking

- Banking of 100% of injected energy shall be permitted during all 12 months of the year.
- The banking year shall be from April to March. Energy settlement shall be done on a monthly basis.
- UERC shall determine the peak and off-hours from time to time.
- The compensation for the banked energy will be based on
  - **Banking during peak hours:**
    - The banking provisions as specified in UERC (Tariff and other terms for supply of electricity from renewable energy sources and non-fossil fuel based Co-generating stations) regulations, 2018 or its subsequent amendments shall be applicable for banking during peak hours.
    - Banked energy can be utilised by the consumer during off-peak hours. The unutilised banked energy shall be considered as a deemed purchase by Discoms and compensated at the applicable tariff rate as determined by the UERC from time to time for the applicable year.
    - No banking charges will be applicable for such unutilised banked energy.
  - **Banking during non-peak hours**
    - Banking of excess generation during non-peak hours by distributed solar power plants shall be considered as a deemed purchase by Discom and compensated at the applicable tariff rate as determined by UERC. Discom

shall aggregate such excess generation to create a green energy pool. This green energy pool shall be made available to consumers at a green tariff rate by Discoms.

- The compensation tariff for banked energy shall be commensurate to the average power purchase cost of Discom determined by UERC from time to time.

## **7.6 Open Access**

For intra-state, open access clearance shall be granted as per the application request for short-term, medium-term or long-term tenure. In the absence of any response or intimation from the Discoms to the generator within 21 days, such application shall be considered to be deemed open access.

- No transmission and wheeling charges shall be applicable for captive/group-captive plants and third-party sale of electricity.
- Cross-subsidy surcharge and additional surcharge shall be exempted for the solar power plants, less than 25 MW, set up for third-party sale or captive use within the state through open access.

The state government shall reimburse the open access waivers to Discoms provided above to solar power projects. In addition, UERC shall notify green open access regulations in alignment with 'Green Energy Open Access' rules to provide clarity on banking permission, charges, processes, and open access charges computation methodology, among others.

## **7.7 Grid Connectivity and Evacuation**

Any upstream system strengthening requirement may be borne by Transco/ Discom(s) of Uttarakhand on a priority basis. Supervision charges levied by the Uttarakhand Transco/ Discom(s) may be exempted for all solar power plants except utility-scale solar power plants. Transco/ Discom(s) may process and close the proposals for technical feasibility within thirty (30) days of receipt of the application from the solar power project developer.

## **7.8 Solar Policy Cell and Single Window Portal**

A dedicated Solar Policy Cell may be created under the Uttarakhand Renewable Energy Development Agency (UREDA). All the statutory clearances and approvals shall be provided to the solar power project developers through the single window portal developed by the Department of Industries in a time-bound manner within a period of 60 days. UREDA shall formulate detailed SOPs with clear timelines for approvals. A transaction charge of INR 10,000/MW shall be applicable for processing applications for single window clearance with a maximum of INR two lakhs per project for utility-scale and captive/group captive projects. This facility shall be extended to the rooftop solar power plants to reduce the challenges of inter-department coordination without any charges.

## **7.9 Data rooms**

UREDA shall create data rooms, which will host information about available land parcels offered for land banks, building details and rooftop solar potential (including rooftop and ground-mount solar) of government buildings and institutions.