Uttarakhand State Solar Policy, 2023

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Abbreviations

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

RFP	Request for proposal
ROW	Right of Way
RPO	Renewable Purchase Obligation
SCGJ	Skill Council for Green Jobs
SGST	State Goods and Services Tax
SLDC	State Load Dispatch Center
SLEC	State Level Empowered Committee
SLSC	State Level Screening Committee
SOP	Standard Operating Procedure
SPPD	Solar Power Park Developer
SPO	Solar Purchase Obligation
TAFC	Technical Appraisal and Financial Committee
SRLM	State Rural Livelihood Mission
TRANSCO	Transmission Corporation
UERC	Uttarakhand Electricity Regulatory Commission
UPCL	Uttarakhand Power Corporation Limited
UREDA	Uttarakhand Renewable Energy Development Agency
USPLAC	Uttarakhand Solar Power Land Allotment Committee
VLC	Village Level Committee
VNM	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. "Behind the meter solar PV projects" refers to Solar PV projects designed for self-consumption with reverse power flow relay to ensure that electricity generated from rooftop PV projects is not fed into the network of the Distribution Licensee, then such installation needs to be treated as grid-connected behind the meter rooftop solar installation which does not exchange electricity with the grid."
4. "Central Agency" means the National Load Dispatch Centre (NLDC) as designated by the Central Electricity Regulatory Commission vide order dated 29.01.2010 for the REC Regulations

5. "Data rooms" refers to the online portal to host information on available land parcels, building details, and rooftop solar potential (including rooftop and ground-mount solar) of government buildings.

6. "Discom" means a distribution licensee of Uttarakhand.

7. "Effective Date" means the date on which the PPA agreement will come into effect.

8. "Government" and "State" means the Government of Uttarakhand and the State of Uttarakhand, respectively.

9. "Green Tariff" is the regulated tariff at which willing consumers can procure clean electricity from UPCL.

10. "Licensee" includes a person deemed to be a licensee under Section 14 of the Act.

11. "MNRE" means the Ministry of New and Renewable Energy, the nodal Ministry of the Government of India for all matters relating to new and renewable energy.

12. "Nodal Agency" means the State Nodal Agency, UREDA.

13. "Peer-to-Peer (P2P)" trading refers to the 'buying & selling of rooftop solar PV energy between two or more grid-connected parties in a secured & reliable way with proper accounting & billing mechanism implemented with the help of Blockchain technology.'

14. "Policy" means Uttarakhand State Solar Policy 2023.

15. "Renewable Energy Certificate" or "REC" means the Renewable Energy Certificate issued by the Central Agency under 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.

16. "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.

17. "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, 2018, notified by CERC vide notification dated 28.03.2018 and amended from time to time.

18. "Renewable Energy Sources" (RES) means

    1. solar radiation, wind, 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.

19. Rooftop solar power plants refer to solar PV systems installed either on the rooftop or the ground within the premises of the consumer.

20. "Solar Power Producer" means an entity which owns facilities to generate electric power for sale to Discom of Uttarakhand/Licensees/third-party/captive use.

21. "Tariff" means the schedule of charges for generation, transmission, wheeling and supply of electricity together with terms and conditions for application thereof.

22. "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. 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.

23. "Vulnerable communities" refer to the communities impacted by or at high risk from natural calamities. In addition, the communities displaced due to the development of hydro projects shall also be considered under this category and will be given preference for employment and capacity building.

24. "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 its dependence on fossil fuels and adopting cleaner forms of energy that also lead to energy security and inclusive growth of its economy.

The current solar policy, referring to the Uttarakhand Solar Energy Policy 2013, focuses on accelerating solar deployment through utility-scale projects. Under the current solar policy, the state has achieved approximately 575 MW by November 2022. Going forward, the state aims to harness the potential of renewables in meeting its jobs, growth and sustainability objectives. Therefore, by leveraging the solar potential, the state will emphasise adopting clean energy pathways and diversifying its energy mix to further its objectives of preserving natural ecosystems, boosting livelihood prospects, improving the 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 and weather conditions such as 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 reaping 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 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 may be called Uttarakhand State Solar Power Policy 2023.

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 2500 MW in the state by December 2027 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 vulnerable communities to create employment opportunities through solar project deployment.

5. Operative Period

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

6. Target

The policy promotes a diversified project portfolio spanning various consumer categories and applications. The two broad project categories are 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	
Cumulative Target by 2027 (MW)	1100	250	250	350	50	**2000**

The Government of Uttarakhand recognises that purchase of power from utility-scale solar PV projects in other resource-rich regions of the country would be preferred by state utilities because of cost-competitiveness as compared to installations within the state. At the same time, the state also acknowledges that decentralised solar applications across districts could offer flexibility and resilience to its power system and deliver the desired socio-economic benefits by bringing the transition closer to the communities. Hence, this policy emphasises a balanced growth of the solar sector by encouraging the purchase of cheaper solar power from other regions and promoting the adoption and offtake of decentralised solar within the state.

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 25 years from the date of scheduled commissioning unless otherwise mentioned.

The state solar policy shall subsume the existing state-run solar based schemes. The target specified under individual schemes shall become part of the larger target under the policy. UREDA shall be the nodal agency for these schemes.

7.2 Green Tariff

- Discom shall create provisions for all interested and obligated consumers to procure clean electricity from renewable energy sources at predetermined tariff rates, also called 'Green Tariff'.
- UERC shall introduce the 'Green Tariff' under 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 from time to time, 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) benefits 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, government, and institutional consumers to compensate for any excess generation injected into the grid. UERC may introduce time-of-the-use solar energy feed-in tariffs to encourage solar plus storage operators to inject energy during peak demand hours.

7.4 Metering

7.4.1 Virtual and Group Net Metering

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

7.4.2 Net metering

In the absence of state net metering regulations, State Electricity Regulatory Commission shall refer to the Electricity (Rights of Consumers) Rules, 2020, as modified from time to time for allowing net metering, net billing or net feed-in for other loads. These provisions shall apply to all consumers that are allowed net metering under the policy.

7.4.3 Peer-to-peer trading

The government and the UERC shall promote peer-to-peer trading using blockchain technologies, allowing prosumers to sell power to other grid consumers. UERC shall promote peer-to-peer trading through amendments to 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 from time to time. Prosumers shall be able to sell excess energy to interested consumers at a mutually agreed price/dynamically realised price (over the trading platform).

7.5 Banking

- Banking shall be available only to captive solar power plants not availing net-metering.
- 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 every month.
- From time to time, UERC shall determine the peak and off-peak hours.
- 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 hoursas specified in the tariff orders from time to time.

- Energy banked in peak hours can be utilised by the consumer during off-peak hours. The unutilised banked energy shall be deemed to be purchased by the Discom and compensated at the tariff rate as determined by the UERC from time to time.
- No banking charges will apply to the unutilised banked energy.

- **Deemed purchase during non-peak hours**
  - Excess generation during non-peak hours by distributed solar power plants shall be a deemed purchase by Discom and compensated at the tariff determined by UERC. Discom shall aggregate the excess generation to create a green energy pool. This green energy pool shall be made available by the Discom to the consumers at the green tariff rate.

7.6 Open Access

The Discom shall update the status of open access applications for the intra-state network within 21 days, 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 applicant within 21 days, the application shall be deemed to be approved, unless Discomsshall seek additional time(maximum upto 15 days) citing the valid reasons for the extension.

- Captive/group-captive solar plants will be exempt from paying transmission and wheeling charges.

To further the principles of the Act, the Government of Uttarakhand, in consultation with UERC, will :

- Notify green open access regulations in alignment with 'Green Energy Open Access' rules to provide clarity on banking permission, charges, processes, open access charges computation methodology, etc.
- UERC will notify the computation methodology to calculate any losses incurred by discoms due to open access waivers. Discom will submit their computation to UERC and will be compensated by state government subject to UERC approval.

7.7 Grid Connectivity and Evacuation

To achieve the targets set under the policy, State Transco shall periodically assess transmission needs and conduct medium to long-term transmission planning in consultation with the discom and UREDA. Transco/ Discom(s) of Uttarakhand shall strengthen the upstream system 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. In addition, for rooftop solar projects, discoms shall identify and notify pockets where DT spare capacity is available and benefits will be higher for integrating rooftop solar system to the grid. Accordingly, network augmentation plans shall be formulated by the discom.

7.8 Solar Policy Cell and Single Window Portal

Uttarakhand Renewable Energy Development Agency (UREDA) shall create a dedicated Solar Policy Cell. 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 within a period of 60 days. Within 30 days of the policy notification, UREDA shall formulate detailed standard operating procedures (SOPs) providing details of the processes, relevant departments, and internal sharing mechanisms for transaction charges with clear timelines for approvals. A transaction charge of INR 25,000/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 without any charges.

7.9 Data rooms

UREDA's Solar Policy cell shall create data rooms, to host information on available land parcels, building details, and rooftop solar potential (including rooftop and ground-mount solar) of government buildings.

7.10 Height of the Module Structure

The applicable building byelaws shall not count the height of module structures up to 3 meters towards the total height of the building. No approval shall be required from the concerned Municipal Corporation or Department of Urban Development & Housing for putting up solar power plants, including any additional system for monitoring the performance of solar power plants in existing or new buildings, except any required AAI approval.

7.11 Payment Security Mechanism (PSM)

For the sale of RE by developers to government departments and Discoms, UREDA, in consultation with the government departments, shall specify payment security mechanisms to be created by the buyers. The PSM may be in the form of ESCROW accounts or letter of credit. The first right of way remains with the developer for collection of undisputed dues, which the department may have failed to pay in time. The detailed provisions on PSM and buyer guarantees, shall be specified in the bidding document.

7.12 Prepare model PPAs and request for proposals (RFPs)

UREDA shall prepare model PPAs and RFPs, in consultation with Discoms, to capture transactions in new business models of community solar and collaborative solar procurement, and setting up agrovoltaic projects, etc. In addition, UREDA shall issue a model lease agreement to facilitate the deployment of utility-scale solar projects on private land.

7.13 Timely Completion

If the utility-scale project is commissioned within the scheduled period, then the project will be exempted from electricity duty for ten years. In case of delay beyond 30 days for reasons other than those in the developer's control (like delay in signing PPA or up-gradation of power evacuation infrastructure) electricity duty shall be exempted on a case-to-case basis.

7.14 Deemed Industry Status

All solar power plants shall be treated as 'industry' under the prevailing industrial policies of Uttarakhand, and incentives available to industrial units shall also be available to the solar power plant developers.

7.15 Must Run Status

State Load Dispatch Centre may ensure the 'Must Run' Status of the state's solar power plants as per the State Grid Code. State Load Dispatch Center (SLDC) must also regularly maintain the data on the quantum and reasoning behind the curtailment of solar power, if any, in a transparent manner. Solar power plants shall forecast and schedule their generation as per the eligibility criteria and requirements stated in the UERC Regulations, as amended from time to time.

7.16 Capacity Building

- UREDA, along with the department of employment and training, shall facilitate skill development for strengthening the service infrastructure at the local levels. The skill development may be through existing state and Central government training and skilling programmes. Such programmes include those run by the Ministry of New and Renewable Energy (MNRE), Ministry of Rural Development (MoRD), National Institute of Rural Development (NIRD), National Skill Development Corporation (NSDC), National Institute of Solar Energy (NISE), Skill Council for Green Jobs (SCGJ), and related schemes.
- UREDA, in collaboration with NISE or other recognised and credible training institutes, shall focus on targeted capacity building of vulnerable communities. UREDA must also collaborate with NISE to train more Suryamitras and facilitate their absorption in the solar workforces within the state.
- In addition, UREDA shall ensure that these trainings shall be gender inclusive to promote women's participation and are carried out in different districts to ensure equal access to such opportunities.
- UREDA, in coordination with Krishi Vigyan Kendra Network, shall train agricultural farmers in different districts to sensitise them about solar power plants and potential benefits and demonstrate pilot projects.
- UREDA shall facilitate training/orientation staff from all relevant departments, including UREDA district officials, to ensure smooth implementation of processes defined under the policy, including single window portal, land banks, among others.

7.17 Land Banks

UREDA shall facilitate the setting up of a land bank, including identification, aggregation, development, and allocation of land for solar power plants. The process of land allotment shall be governed by the Uttarakhand Solar Power Land Allotment Committee (USPLAC).

- **Government Land**
    - UREDA shall liaise with the Department of Revenue in setting up a land bank.
    - UREDA in accordance with the existing land revenue rules/law of Uttarakhand (which may be amended from time to time), shall identify suitable government land owned by various

departments for solar deployments in collaboration with research and technical institutions in the state.

- The District Collector and government departments shall transfer the advance possession of identified land parcels, including land for right-of-way (ROW), to the Department of Revenue.
- All identified land parcels will be converted into a land bank for solar deployment. The permission for utilisation of Government land (if available) will be done as per the provision of Uttarakhand Land Revenue Rules/Laws.
- Such conversion to a land bank will be done upon approval from the USPLAC.
- The Government land (if available) shall be provided to the project developer on a long-term lease for 30 years as per the applicable land revenue rules/law of Uttarakhand for the installation of the Solar Power Project.
- Department of Revenue may collect the lease rentals may collect lease rentals, from the SPPD or the project developer, for a 30 years or project lifetime (whichever is less) as determined by UREDA.
- If the government land is found to be used by SPPD for purposes other than the solar project, the lease permission will be cancelled immediately. The construction carried out by the developer and equipment on such land will be seized and vested in the state.
- After completion of the lease period, the land shall be cleared and transferred back to the concerned department/UREDA in the original form by SPPD.
- Preference for allotment of government land may be given to UREDA/state/ Central PSUs.

- **Private Land**
  - UREDA shall float an 'Expression of Interest (EOI)' for private landowners who wish to offer their lands for sale or lease for solar power plants.
  - Upon receiving such interests under the EOI rounds, UREDA wil conduct a feasibility analysis of the sites in collaboration with research and technical institutions to evaluate the potential capacity. UREDA will coordinate with relevant departments to conclude the procurement formalities with owners of sites found suitable for solar plant deployment and convert these lands into available land banks.
  - The minimum lease amount for private land will be decided on market value. Such rates will be notified on UREDA's website, in consultation with the USPLAC, from time to time.
  - After the project's useful life, the land shall be cleared and transferred by the SPPD to the site's owner in its original form
  - Developers who wish to install solar plants are free to identify lands on their own. The developers will either have to purchase the land or leave land on a long-term basis.

- **Restrictions on land area allocations for government land**

The approximate land requirement for solar PV technology is 2 Hectares per MW. In the hilly terrains, due to topographical considerations, the maximum limit of land per MW capacity shall be 2.5 Hectares or 31 bighas unless, in exceptional situations, a higher quantum of land is required on an unavoidable basis.

- **Additional provisions**
  - Noland restriction, hectare per MW, shall be applicable for private land.
  - Before acquiring land from a private title holder, the land shall be verified by the revenue officer of the concerned district.
  - The provisions of the Land Acquisition Act shall be followed to acquire land.
  - UREDA may provide information on the land banks on its website.
  - Upon selection, the SPPD will be required to complete all processes, as notified by UREDA from time to time, towards allotment of land from the land bank.
  - The solar power producer shall abide by all the terms and conditions of allotment and directions issued by the State Government and UREDA and amended from time to time.
  - The SPPD must set up the solar power plant within two years from the date of allotment of land, provided that UREDA may extend the period of setting up of solar power plant for valid reasons on the application made by a lessee to UREDA.
  - If the land is not used within the stipulated or extended time period, it shall revert to the Department of Revenue, free from all encumbrances.
  - The land shall be allotted for 30 years and up to a maximum 35 years upon extension. The allotted land shall be transferred back to the respective department from the lessee on the expiry of the lease period.
  - The allotted land shall be used strictly for the purposes of setting up solar power plants. The SPPD shall neither use nor allow the land to be used for any other purpose and shall not make any constructions on the said land other than that required for the setting and evacuation of the energy generated.
  - The lease rent payable on the land allotted for the setting up of solar power plants shall be paid annually. The detailed guidelines for lease rent determination will be notified by UREDA on their website from time to time in consultation with USPLAC.
  - The SPPD may be allowed to sublease a part or the entire land with prior consent from the SLSC/State Level Empowered Committee (SLEC). The subleased land shall only be allowed for the setting up of solar energy projects, and sub-lessees shall be governed by terms and conditions applicable to the lessee, which may be specified by the State Government from time to time.
  - The SPPD shall initiate activities on the allotted land only after the execution of the lease deed. The allotment of land shall be liable to be cancelled if the power plant does not start commercial operation within the time as per bidding terms and conditions.
  - In case of default by the lessee or sub-lessee, the lease shall come to an end, and the land shall be returned to UREDA.
  - At the time of the return of the land to UREDA, the leaseholder shall remove all structures and installations from the land at his own cost. Upon his failure to do so, SLEC shall have the power to dispose of the same and recover the expenses from the solar power producer.

- The detailed guidelines on the land allotment and requisite form templates such as application form, lease deed etc. may be uploaded by UREDA within 90 days from the commencement of the policy.

- **Exemptions**
  - **Stamp Duty:** There shall be a 50% exemption/reimbursement of stamp duty on the lease deed of land or purchase of land and any further sub-lease(s) for the land required to establish a solar power plant within the state.
  - **Conversion Charges:** Land for solar power plants shall be deemed to be converted to Non-agricultural land status. However, land conversion shall not be required to develop solar parks on private agricultural land. There shall be a 100% waiver on land use conversion charges/fees.
  - **Other Charges:** Exemption from court fee for the registration of documents relating to the land lease shall be granted to entities. In addition, exemption from land use approval, external development charges, scrutiny fees, and infrastructure development charges shall be provided.
  - **Additional incentive for solar-based EV Charging Stations:** Solar installations for EV charging on government land shall also be eligible for an additional 50% concession on land lease payment. The scheme would also be available to the chain of EV charging stations owned by a single service provider.

7.18 Direct benefits to local communities

To promote local employment generation, at least 50% employment of the total employment potential during the construction and operational stages of the project will be provided to bonafide residents of Uttarakhand, with preference to displaced communities or communities at risk where Government land is leased out for projects. In the initial two years of the policy, any shortages of trained local manpower may be met through non-bonafide residents. The Government of Uttarakhand shall include these provisions/requirements in the standard bidding documents issued from time to time. In addition, UREDA shall also ensure that requisite manpower is also trained in the state to undertake such jobs through skill development initiatives, as highlighted in section 7.17.

Wherever Government land, where the right holders have community rights, is leased out for project development, 1% of the total cost of the project shall be paid to the Local Area Development Fund or Gram Panchayat Fund or District Tourism Development Committee (DTDC) for community development works, to be decided by the rural development department.

Where private land is used, no such contribution is mandatory, but the developer may contribute to local development voluntarily.

7.19 Manufacturing

The Government intends to promote solar manufacturing facilities to support economic growth and job creation. The following incentives shall be applicable for new manufacturing facilities and equipment and ancillaries related to solar power projects set up within the state.

- Priority allotment of Government land in solar parks on a long-term lease basis.

- Waiver of electricity duty for the new manufacturing facilities and ancillaries of the Solar Power Projects for a period of 5 years.
- 50% exemption/ reimbursement on stamp duty
- 50% SGST reimbursement to solar energy equipment manufacturers.
- 100% reimbursement of custom duty on input required for manufacturing the solar modules and battery storage for a period of 5 years.
- Any other incentives provided in the prevailing policies of the Department of Industries.

8. Project categories and processes

8.1 Utility Scale Solar

The cumulative target for utility-scale projects is 1100 MW. These projects are further divided into the following categories:

Type I	Projects selected as per the competitive bidding process for selling power to Discom for meeting its RPO Obligation as specified by UERC from time to time.
Type II	Projects set up on private land for captive use or sale of power to third party within or outside the state or project setup on private land under REC Mode
Type III	Projects set up on government land for captive use or sale of power to third party within or outside the state or projects setup on government land under REC Mode.
Type IV	Projects set up outside the state for selling power to Discom for meeting its RPO Obligation as specified by UERC from time to time.
Type V	Projects set up on private land for selling power to Discom for meeting its RPO Obligation as specified by UERC from time to time

Under Types I, II, III and IV, solar power plants with a capacity greater than 200kW are classified as utility scale solar power plants. Under Type V, small size grid connected solar power plants of capacity above 50 kW and upto 200kW shall be allowed.

Process

- **Type I and Type IV Projects:** The total capacity of the project under this category will be as per the RPO target specified by UERC from time to time. UREDA, facilitated by Discom, shall invite proposals from time to time for the selection of solar power plants through a tariff-based competitive bidding process separately for hilly and plain terrains. There shall be a set of qualification criteria fixed by UREDA for the prospective Developers of solar power plants. Under Type I, solar power plants to be installed in the state of Uttarakhand shall be eligible for incentives, including the benefits provided to MSME industries from time to time. Type IV projects are not eligible for any incentives provided in the policy.
- **Type II Projects:** Under this type, any prospective developer can establish solar power plants on Private land. Prospective developers shall submit their proposals with all the required information/documents as per the application form issued by UREDA. Under this type, solar

power plants to be installed in the state of Uttarakhand shall be eligible for incentives, including the benefits provided to MSME industries from time to time.

- **Type III Projects:** Under this type, UREDA shall facilitate the allocation of land through land banks to prospective developers who want to set up solar power plants on Government land (if available) in the state of Uttarakhand with support from UJVNL. The detailed guidelines shall be issued by UREDA. Under this type, solar power plants to be installed in the state of Uttarakhand shall be eligible for incentives, including the benefits provided to MSME industries from time to time.
- **Type V Projects:** Under this type, any prospective developer can establish solar power plants on private land (including barren and cultivable agricultural land). Prospective developers shall submit their proposals with all the required information/documents as per the application form issued by UREDA. The deployments carried out under the Chief Minister Solar Self Employment Generation scheme are considered under this category. Under this type, solar power plants to be installed in the state of Uttarakhand shall be eligible for incentives, including the benefits provided to MSME industries from time to time.

Tariffs:

- **Type I and IV Projects:** Under this category, the discom shall be the sole procurer of the power generated, the solar projects will be setup though competitive bidding process. Power Purchase Agreement will be executed between Discom and successful bidders at the tariff arrived by the process of tariff based bidding. However, the rates shall not be more than the ceiling rates specified by the UERC from time to time.
- **Type II and III Projects:** In case of third-party sale within or outside the state or for captive use, the Power Purchase Agreement will be executed between the Power Producer and the Procurer at mutually agreed rates.
- **Type V Projects:** Under this category, the power generated shall be purchased by Discom at pre-fixed tariff determined by UERC from time to time.

A separate agreement will be executed for banking of power with Discom. The wheeling agreement with Power Transmission Corporation of Uttarakhand Ltd (PTCUL), Uttarakhand Power Corporation Limited (UPCL) or other grid or networks as appropriate will be executed separately.

8.2 Distributed Solar

UREDA shall be the nodal and implementing agency for the deployment of distributed solar projects in the state.

8.2.1 Residential Consumers

The policy will support the deployment of 250 MW of solar capacity in the residential sector. The consumers falling in the category of 'residential consumer' as per the UERC definition shall be eligible to install solar power plants for meeting their own consumption or sale as per the following classification.

I. **Rooftop Solar**

- The state shall promote the development of rooftop solar power plants among residential consumers.

- Solar power plants, within the consumer premises, can be located on the rooftop or on the ground.
- All residential consumers with sanctioned loads higher than 10 kW are encouraged to meet a minimum of 30% of their annual electricity consumption over the next five years through RE sources.
- Under this policy, all residential consumers are encouraged to install rooftop solar systems on their premises.
- All residential consumers are allowed to install solar power plants on their rooftops/premises irrespective of the sanctioned load as specified in the UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel-based Co-generating Stations) Regulations, as amended from time to time.
- Solar power plants can also be set up by a developer on the rooftop/premises of a residential consumer for the generation and sale of power to the consumer on the same premises (third-party sale), for which the developer and consumer shall enter into a power sale agreement. If a third party intends to sell the net energy to Discom, a tripartite agreement needs to be signed between the third party, the eligible consumer and Discom.
- All upcoming large residential complexes, such as housing societies or residential townships, with sanctioned loads of more than 100 kW are mandated to fulfil 100% of common area energy requirements (parks, elevators, gyms, stairs, etc.) with rooftop solar power plants. Constructed buildings and societies shall also be encouraged to meet their energy requirements through solar power.
- UREDA shall provide any additional incentive envisioned in the policy to the residential consumers.

Tariff:

- The accounting for solar generation shall be as per the net-metering (or VNM) regulations notified by the UERC.
- The excess generation shall be compensated based on the feed-in tariff rates notified by UERC from time to time.

II. Solar Villages

- Under the policy, UREDA shall facilitate the complete solarisation of 300 villages. These solar villages are targeted to improve the reliability and quality of power supply, boost rural income, strengthen education and health services, and provide employment opportunities by integrating solar into the rural economy. These villages shall serve as model villages not only at the state level but also at the national level.
- The solar villages shall target intervention in four areas - powering villages through community solar installations, powering and strengthening institutional facilities, powering livelihoods through decentralised productive appliances, and powering agriculture and agro-based MSMEs.

- The policy also promotes solar-plus-storage solutions to encourage self-consumption in the identified solar villages.
- UREDA, along with the State Rural Livelihood Mission (SRLM), shall support skill development for strengthening the service infrastructure at the local levels through existing state government-run training and skilling programmes and relevant Central Government programmes and related schemes.
- UREDA shall enable a market-oriented framework to attract the private sector for the development and deployment of local servicing of solar-based systems and related livelihood applications in these villages.
- UREDA shall also encourage the deployment carried out under the Chief Minister Solar Self Employment Generation Scheme to be targeted in the identified villages. The scheme shall be expanded to include provisions for solar project installation.

Process:

- UREDA shall identify a priority list of villages to be transformed into solar villages in coordination with Discom, SRLM, the Department of Panchayati Raj and the Department of Rural Development.
- UREDA shall publish the list of potential sites/villages (where grid extension/provision of grid electricity is expensive for Discom) for the deployment of RE-based mini/microgrids. The solar villages shall be selected both from hilly and plain areas.
- UREDA shall work in coordination with SRLM, the Department of Panchayati Raj and the Department of Rural Development to formulate a village-level committee comprising Gram Panchayat members and other active members of the village, such as women self-help groups, youth groups and any other groups working for the development of the village. The committee shall also include women representatives.
- UREDA shall identify and map land parcels in the villages consisting of Government as well as private lands suitable for solar deployments (refer to the EOI process indicated for aggregating private lands).
- UREDA, along with SRLM, shall assess the energy demand and possibilities or potential of deploying solar applications across economic livelihood sectors in these villages. The demand assessment activities will help in mapping the needs of beneficiaries with appropriate fit to livelihood applications.
- Community installations owned and operated by Gram Panchayat shall be encouraged due to limited daytime load, especially in hilly areas. Excess generation during the daytime shall be fed into the grid and compensated by Discom at the notified feed-in-tariff rates issued by UERC from time to time.
- The proceeds from excess generation shall be channelised towards a developmental fund managed by UREDA. The fund shall be used both by UREDA and Gram Panchayat to carry out solar-based developmental activities in these villages.
- UREDA, with assistance from SRLM, shall facilitate securing low-cost finance for consumers in identified villages by coordinating with financial institutions.

- Village-level committee (VLC) shall carry out awareness drives in the identified villages with assistance from UREDA and SRLM. In addition, the committee shall also be responsible for the operation and maintenance of the community solar installations in the village.

Tariff:

- The accounting for solar generation shall be as per the net-metering (or VNM) regulations notified by the UERC.
- The excess generation shall be compensated based on the feed-in tariff rates notified by UERC from time to time.

III. Solarising homestays and Trekking Traction Centres

- Under the policy, home-stays registered as per Deendayal Upadhyay Home-Stay Development Scheme Rules, 2018and Trekking Traction Centres as per Trekking Traction Centre Homestay Yojana, 2020 shall be considered, which fall under the category of domestic consumers as per UERC regulations.
- The Deendayal Upadhyay Home-Stay Development Scheme shall be expanded to support the installation of solar power plants by homestays.
- Homestays installing solar power plants shall be eligible for incentives as per the Deendayal Upadhyay Home-Stay Development Scheme Rules, 2018 or subsequent amendments by the State Government from time to time.
- UREDA, along with the Tourism Department, shall carry out awareness drives for these homestays and sensitise them about the potential benefits and processes of installing solar power plants.
- Homestays installing solar power plants shall also be eligible to claim incentives under the Veer Chandra Singh Garhwali Tourism Self Employment Scheme or subsequent amendments by the State Government from time to time.

Tariff:

- The accounting for solar generation shall be as per the net-metering (or VNM) regulations notified by the UERC.
- The excess generation shall be compensated based on the feed-in tariff rates notified by UERC from time to time.

IV. Solar with storage and mini/microgrids for providing resilience to the power system

- The focus shall be on providing affordable, reliable and clean energy to the rural communities living in hilly and snow bound areas which are not connected to the grid or prone to grid disruptions / natural disasters. They must be empowered to improve their quality of life through distributed solar energy solutions.
- To solarise these areas, community solar power plant installation with storage solutions shall be targeted.
- In addition, behind-the-meter rooftop solar power plant installation with energy storage of capacity less than 1 kW shall also be promoted.

- UREDA, along with SRLM and the Department of Employment and Training, shall support skill development for strengthening the service infrastructure at the local levels through existing central and state training and skilling programmes.

Process:

- UREDA shall identify priority areas for the installation of solar-plus-storage projects in coordination with Discom, SRLM, the Department of Panchayati Raj and the Department of Rural Development.
- UREDA shall issue an expression of interest for private landowners who wish to offer their land on a lease basis or for sale for installing community solar-plus-storage plants. The land owners can submit their interests to UREDA, in the prescribed formats, within 30/45 days of such notification. Such EOI shall be floated once every year.
- Upon receiving such interests under the EOI rounds, UREDA will conduct a feasibility analysis of the sites to evaluate the potential capacity. UREDA will coordinate with the relevant departments to conclude the procurement formalities with owners of sites found suitable for solar plant deployment and convert these lands into available land banks.
- UREDA shall formulate a village-level committee as specified in Section 8.2.1.
- The system shall be set up by a solar developer/EPC company selected through a tendering process by UREDA. The operation and maintenance of the system shall be carried out by the VLC with assistance from UREDA.

Tariff:

- The accounting for solar generation shall be as per the net-metering (or VNM) regulations notified by the UERC.
- The excess generation shall be compensated based on the feed-in tariff rates notified by UERC from time to time.

Business models:

For installations by residential consumers, the traditional capital expenditure (CAPEX) and operating expense (OPEX) business models shall be available for adoption. In addition to these models, UREDA, in coordination with Discom, may develop innovative business models for rooftop solar. Such innovative models, upon regulatory approval (if needed), shall be available for developers as an option to explore in the state.

Incentive:

- 50% reimbursement from the payment of State Good Service Tax (SGST) on the sale of rooftop solar power plants shall be provided by the Commercial Tax department for a period of 5 years.
- No transmission and wheeling charges or losses shall be applicable for solar power plants installed under this category.
- Cross subsidy and additional surcharge shall be exempted for the solar power plants set up under the VNM framework.

- Consumers staying in the homestay shall be encouraged to make eco-donation to contribute towards solar project installation by the homestay. Against these donations, a payment receipt shall be issued to the donor by the tourism department.

Capital Subsidy:

- The state government shall provide subsidy over and above the subsidy from the Central Government.

Project Categories	Capacity (kW)	State Subsidy (INR/kW)	Remarks
Rooftop Solar	0-1	23000	Flat subsidy inversely proportional to system capacity
	1-3	17000	
Community Solar	5-500	8000	Support community leads in high-rise societies and rooftop solar systems with shared ownership and residential consumers as end beneficiary
Solar Villages	50-200	15000	
Behind-the-meter (with energy storage)	<1 kW	23000 (without storage) 28000 (with storage)	Focus on off-grid households located in remote areas or prone to grid disruptions

8.2.2 Solar for livelihood

- The policy would support the deployment of state-of-the-art use of solar energy for livelihood activities in rural areas.
- The policy encourages innovation and research and development (R&D) to develop efficient and cost-effective tailor-made solutions per the local population's needs.
- UREDA shall draw inferences from the MNRE Policy framework for developing and promoting decentralised renewable energy (DRE) livelihood applications to frame a specific scheme for Uttarakhand.
- UREDA would also facilitate their scale-up through dedicated schemes with subsidies and innovative business models drawing from both national and international experiences. This would support pilot and field demonstrations of new applications and technology innovations on the ground.
- Low-cost finance offered under Chief Minister Self Employment Generation Scheme and Chief Minister Self-employment Scheme (Nano) shall be extended for solar livelihood applications notified by UREDA on their website.

- UREDA, along with SRLM and the Department of Employment and Training, shall facilitate in developing and implementing skills and training programs for DRE livelihood applications and Agrovoltaic projects with SRLM, SCGI, National Institute for Rural Development and other relevant central/state government departments.

Process:

- UREDA together with SRLM, with inputs from village-level representatives, shall assess the potential for diverse solar-based applications and livelihood opportunities that can be supported through the incentives and framework under this policy.
- Post finalisation of the product, a catalogue of DRE powered livelihood applications shall be available on UREDA's website, which shall be used by stakeholders for awareness creation.
- UREDA, along with SRLM and VLE, shall carry out awareness drives in the identified villages about solutions, installation, usage and best practices through innovative methods such as awareness drives, demo vans, establishment of Livelihood Application Park displaying products, etc.
- UREDA, in coordination with SRLM, shall create demonstration centres for the identified livelihood applications to sensitise consumers in different districts.
- UREDA, with assistance from SRLM, shall facilitate secural of low-cost end-user finance for these applications and pilots through schemes involving National Bank for Agriculture and Rural Development (NABARD), rural and regional banks, MFIs, and multilateral, bilateral, and philanthropic organisations.

Incentive:

- 50% exemption/ reimbursement on stamp duty on the sale of livelihood products.
- 50% Net SGST reimbursement to solar energy equipment manufacturers.
- 100% reimbursement of custom duty on input required for manufacturing the livelihood applications for a period of 5 years.
- Low-cost finance provided under different self-employment generation schemes notified by the State Government shall be extended towards these projects.

8.2.3 Commercial and Industrial (C&I) Consumers

The policy aims to achieve deployment of 750 MW of solar capacity by commercial and industrial consumers through rooftop solar (including ground mount systems within the consumer premise), captive power plants (on-site and off-site) and open access projects. All commercial and industrial consumers, as notified by UERC in their Grid Tariff Orders, shall be eligible to install solar as per the following provisions.

i. Rooftop Solar

Process

- The state shall promote the development of captive/group captive rooftop solar power plants by C&I consumers on rooftops as well as ground-mounted systems within consumer premises.

- All C&I consumers shall be allowed to install rooftop solar systems up to their sanctioned load subject to the ceiling limit specified by UERC in their regulations.
- All industrial and commercial establishments in urban areas with a connected load of 100 KW or contract demand of 120 kVA and above are mandated to fulfil at least 20% of their annual energy requirements through renewable energy sources, including solar energy. This shall be in line with the Energy Conservation Building Code, 2017 (Revision 2021).
- The policy encourages the deployment of behind-the-meter, off-grid, captive solar power plants. There shall be no capacity restriction for behind-the-meter captive rooftop solar systems (with or without storage) installed by C&I consumers with no provision to export the excess power back to the grid.
- All behind-the-meter projects shall be subject to inspection by the Chief Electrical Inspector (CEI) and registered with UREDA.
- The policy encourages all commercial and industrial establishments to install solar-based EV charging stations on their premises. In such cases, the consumer will be allowed to install excess solar capacity within the consumer premise, equivalent to the sanctioned load of an EV charging station.

Business models:

For installations by commercial and industrial consumers, the traditional CAPEX and OPEX business models shall be available for adoption. In addition to these models, UREDA, in coordination with UPCL, may develop innovative business models (such as collaborative procurement model, and anchored procurement model, among others) for rooftop solar. Such innovative models, upon regulatory approval (if needed), shall be available for developers as an option to explore in the state.

Tariff

- Injection from rooftop solar power plants during peak hours shall be considered towards banking as per the provisions specified in banking regulations.
- Excess energy fed into the grid during non-peak hours shall be considered towards green banking and shall be compensated at a rate specified by UERC from time to time, as specified in section 7.5.
- Excess drawl by the consumer from the grid, if any, after giving set-off shall be charged by Discom at an applicable tariff of the respective category of the consumer as determined by UERC from time to time.

II. **Open Access**

The policy encourages the deployment of captive and group-captive, and third-party solar power plants (grid-connected) through open access in the state.

Process

- UREDA shall, within 90 days, formulate detailed guidelines for setting up the development of captive and group captive and third-party solar power plants.

- Group net-metering is allowed for all commercial and industrial consumers for rooftop solar installations.
- The developer shall be responsible for the registration of solar power plants with UREDA as per the provisions of Uttarakhand State Solar Policy, 2022.

Incentives

All C&I consumers installing solar power plants as per the criteria specified in the earlier section shall be eligible for the following incentives:

- For intra-state Open access (captive, group captive and third-party projects)
    - **Exemption from transmission and wheeling charges:** Grid-connected solar captive power projects (including storage systems) or group captive projects shall attract 100% exemption from transmission and wheeling charges for a period of 5 years from the date of commissioning of the project. The transmission and distribution losses, however, are fully applicable for both third-party projects as well as captive solar within the state.
    - **Exemption from cross-subsidy surcharge and additional surcharge:** The cross-subsidy surcharge and additional surcharge shall be exempted for captive/group captive solar power plants through open access.
- All industrial consumers registered under the MSME Act 2006 shall be eligible to avail of the following incentives in line with the state MSME policy 2015 and subsequent amendments:
    - Interest subsidy of up to 10%, subject to a maximum of Rs. 8 Lakhs, shall be provided to consumers investing in solar rooftop plants and captive solar power plants (including solar plus storage projects) as provided under the MSME policy of 2015 and its subsequent amendments thereof.
    - Capital subsidy of up to 40% of capital cost, subject to a maximum of Rs. 40 Lacs, shall be provided to consumers investing in solar rooftop plants and captive solar power plants as provided under the MSME policy of 2015 and its subsequent amendments thereof.
- 50% reimbursement from the payment of SGST on the sale of rooftop solar and captive solar power plants shall be provided for a period of 5 years from notification of this policy.
- All eligible manufacturing and service-based establishments shall continue to receive interest subsidies as applicable, as per the terms of the Heavy Industrial Investment and Employment promotion policy, 2018 or its subsequent amendments from time to time, for the installation of solar power plants.

8.2.4 Government/Institutional Consumers

The policy aims for 350 MW of solar capacity deployment by the Government and institutional consumers in the state.

- The state shall promote the deployment of rooftop solar power plants for captive/self-consumption on the roofs/premises of the government departments and state government-owned institutions as defined by the policy upto the sanctioned load/contract demand.
- All existing and upcoming government institutes and buildings are mandated to fulfil at least 20% of annual energy requirements through renewable energy sources, including solar energy. This shall be in line with the Energy Conservation Building Code, 2017 (Revision 2021), applicable for specified building types with a connected load of 100 KW or contract demand of 120 kVA and above.
- Rooftop solar power plants and ground-mounted solar power plants by government departments and institutions, within or outside the premises, can be installed under group and virtual net-metering provisions.
- UREDA shall aggregate demand and conduct bids for such institutional buildings. Bids shall be invited under CAPEX, renewable energy service company (RESCO), as well as other innovative business models.
- UREDA, in coordination with Discom, may develop innovative implementation mechanisms for rooftop solar. Such innovative models, upon regulatory approval (if needed), shall be available for developers as an option to explore in the state.
- For all solar power plants on government establishments, UREDA may provide maintenance and upkeep services upon request from the government departments. This can be done by UREDA themselves or by hiring third-party annual maintenance contractual (AMC) service providers. UREDA can collect a pre-determined fee for facilitating the maintenance services.
- In all business models, the available premises shall first be utilised to set up solar power plants to meet/offset the government institute/building's energy demand. The UREDA can decide on utilising the additional space for installation based on integration studies for the region.
- For setting up solar-based EV charging stations in their premises, government institutes and buildings can install higher capacity beyond their sanctioned load, commensurate to the contracted demand (in kW) for EV charging stations, to meet the charging requirement. The charging stations may be established by the State Public Sector Undertakings, UREDA, private operators or under public-private partnership models.

Business models:

- **Energy Compacts**
    - All government departments shall develop their Energy Compacts - mandatory solar commitments to support the Sustainable Development Goal 7 "Ensure access to affordable, reliable, sustainable and modern energy for all".
    - The Energy Compacts should define the target for solar power systems, action plan, timelines, responsible personnel, envisioned outcomes and impact. UREDA shall develop the necessary template/platform for the Energy Compacts to serve as a reference point while also providing the government departments with technical support for developing the energy compacts.

- UREDA shall develop a dedicated website to showcase the Energy Compacts of various departments. The portal may be opened for other large electricity consumers in the state to submit their own Energy Compacts on a voluntary basis.
- All departments are expected to formulate their Energy Compacts within one year of this policy and submit them to UREDA.
- Each department shall be required to provide continuous progress and updates against the target to UREDA, which shall also be displayed on the Energy Compacts website.
- UREDA shall serve as the monitoring and facilitation agency for the Energy Compacts and shall maintain the website and progress reports for the Compacts.
- UREDA will also facilitate rooftop solar installations if requested by the departments. The capacity aggregated under the Energy Compacts may be bid out by UPCL/UREDA through innovative business models.
- Under Energy Compacts, government departments shall be allowed to install solar power systems with capacity up to the sanctioned load of the buildings with net-metering provisions. Any additional roof space/land available with government departments shall be offered to UREDA for a solar data bank.

- **UREDA solar data bank**
  - UREDA shall create a solar data bank capturing building details and rooftop solar potential for all government institutes and buildings in coordination with various government departments.
  - Such additional roof space may also be utilised by Discoms to meet their RPO targets. Government buildings in rural and semi-urban areas can be leveraged for community installations.
  - Third-party solar developers may utilise the additional roof space of government establishments for solar power plants under the green banking provisions. UREDA shall develop the model guidelines for such installations.

- **Group net-metering**

  The provisions associated with the group and virtual net-metering are extended to all consumers under the government/institutional consumer category.

Tariff:

- The accounting for solar generation shall be as per the net-metering, group net-metering and virtual net-metering regulations notified by the UERC.
- The excess generation shall be compensated based on the feed-in-tariff rates notified by UERC from time to time.

Incentives:

- There shall be no cross-subsidy surcharge, additional surcharge, transmission and distribution losses, and transmission and wheeling charges for systems installed through group net-metering on government establishments.

- Benefits such as banking facilities and payment of surplus energy by Discoms under the net-metering scheme as applicable to domestic consumers shall also apply to government offices, schools, colleges, hospitals and any other government buildings notified by State Government.
- 50% reimbursementfrom the payment of State Good Service Tax (SGST) on the sale of solar power plants shall be provided by the Commercial Tax department for a period of 5 years.

8.2.5 Agriculture consumers

This category shall include Agrovoltaics power plants (including solarisation of agriculture feeders) and solarisation of agriculture pumps.

i. **Agricultural solar installations**

General

- The policy shall promote the deployment of solar power plants on uncultivable and cultivable agricultural land parcels to support rural electrification and boost the rural economy.
- This category shall include Agrovoltaics power plants and solar agriculture feeders. The projects may be integrated with different agricultural areas like "cropland", "grassland", and "greenhouses/polyhouses".
- The policy shall target installation of 50 MW (which will require an approximate land requirement of 105 hectares) of solar capacity in the state through Agrovoltaics. The policy intends to demonstrate the potential of Agrovoltaics and accruing benefits to the rural community.
- UREDA shall promote the development of different types of agrovoltaic systems in the state, including latitude mounted mono facial modules – standard design; latitude mounted mono facial modules – elevated design; solar trees; Latitude mounted bifacial modules – elevated design; vertically mounted bifacial modules – elevated design, among others, to gather more evidence on system performance and crop yield.
- The policy shall encourage the deployment of both grid and off-grid agrovoltaics systems in the state.
- The projects can be set up either for self-consumption or sale to Discom or a third party.
- In addition to agrovoltaics, feeder-level solar power plants may be installed to cater to the power requirement for a single feeder or for multiple agriculture feeders emanating from a distribution sub-station (DSS) to feed power at 11 kV or at the higher voltage level side of the DSS depending upon on factors like availability of land, technical feasibility, etc., there is no cap on the capacity of solar power plant for feeder level solarisation.
- For installations by agricultural consumers, the traditional CAPEX and OPEX/RESCO business model shall be available for adoption. In case of a third-party sale, a bilateral agreement shall be executed between the land user (farmer or tenant) and the EPC

contractor/developer (agrovoltaic installer), either based on a fixed land lease rental or at subsidised electricity tariff rate on mutually agreed terms.

- In addition, UREDA, in collaboration with the SRLM, agricultural, irrigation and rural development departments, may develop innovative implementation mechanisms for such agricultural solar installations. Such innovative models, upon regulatory approval (if needed), shall be available for developers as an option to explore in the state.

Process

- Agrovoltaic power projects can be set up jointly by individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations (FPO)/Water User Associations (WUA), developers and UREDA on uncultivable or cultivable agricultural land.
- UREDA, in coordination with UPCL, shall notify sub-station wise surplus capacity and shall invite applications from interested beneficiaries for setting up the solar agrovoltaic plants.
- UREDA shall conduct bids. Bids shall be invited under CAPEX, RESCO, and other innovative business models.
- For third-party sales, the developer and consumer shall enter into a lease agreement and/or power sale agreement on mutually agreed terms.
- UREDA shall work in coordination with SRLM, the Department of Panchayati Raj and the Department of Rural Development to sensitise panchayat raj institutions about the projects and their potential benefits to create awareness at the local level.
- UREDA, along with Panchayati raj and the Department of Rural Development, shall explore funding for agrovoltaics projects available for gram panchayats to resolve irrigation related issues.

Tariff

- Grid-connected agrovoltaic power plants, for self-consumption, shall be installed under net-metering.
- Excess generation from agrovoltaic systems and solar agricultural feeder projects shall be compensated at the pre-fixed feed-in tariff approved by UERC from time to time.

Incentives

- The state government shall provide 30% capital subsidy on the benchmark cost or the discovered tender cost, whichever is lower. The state capital subsidy will be in addition to any incentives being provided by the Central Government.
- 50% reimbursement from the payment of SGST on the sale of the agrovoltaic power plants under net metering and solar feeders shall be provided for a period of 5 years.
- Grid-connected agrovoltaic power projects selling power within the state shall attract 100% exemption from transmission and wheeling charges for a period of 5 years from the date of commissioning of the project. The transmission and distribution losses shall be applicable for these projects.

ii. **Solarisation of Agriculture Pumps**

i. **Grid-connected agriculture pumps**

Individual farmers having grid-connected agriculture pumps shall be supported to solarise pumps. Solar PV capacity up to two times of pump capacity in kW is allowed under the scheme.

Tariff:

- The solar power generated by projects installed on used or unused agricultural land shall be purchased by Discoms at a pre-fixed levelised tariff.
- The tariff for grid-connected agriculture pumps shall be as per the approved tariff as fixed by UERC from time to time.

Incentives

- The state Government shall provide a 30% capital subsidy on the benchmark cost or the discovered tender cost, whichever is lower. The state capital subsidy will be in addition to any incentives being provided by the Central Government.

ii. **Off-grid agriculture pumps**

- The state shall promote the deployment of standalone solar pump schemes or other state government's initiatives to support the irrigation needs of farmers.
- Individual farmers shall be supported to install standalone solar agriculture pumps on a subsidised basis through a demand aggregation model.
- UREDA, along with the help of district administration, may call for interested farmers willing to adopt solar water pumps for irrigation activities and based on that, it may issue suitable tenders for the installation of such solar water pumps or may go with the selected or identified bidders remarked by MNRE for the same.
- UREDA shall work in coordination with SRLM, the Department of Panchayati Raj and the Department of Rural Development to sensitise panchayat raj institutions about the projects and their potential benefits to create awareness at the local level.
- UREDA, along with the Department of Panchayati Raj and the Department of Rural Development, shall explore funding for agrivoltaics projects available for gram panchayats to resolve irrigation related issues.
- The State Government shall provide a 30% capital subsidy on the benchmark cost or the discovered tender cost, whichever is lower. The state capital subsidy will be in addition to any incentives being provided by the Central Government.

9. Roles and responsibilities

9.1 State Nodal Agency

UREDA shall be the Nodal Agency for the State of Uttarakhand. UREDA and/or the designated offices under UREDA shall be responsible for the below mentioned activities.

9.1.1 Registration, Allotment, Implementation, Progress Monitoring and Reporting

- UREDA shall be responsible to respond to queries and problems of developers of solar power plants.

- UREDA shall accredit and recommend solar power plants for registration with the designated Central Agency under the REC mechanism.
- UREDA shall be responsible for certifying the commissioning of solar power plants.
- UREDA shall, from time to time, undertake the process for allotment of solar power capacities to the project developers. UREDA, in consultation with the related stakeholders, shall announce the process for allotment of solar power capacities.
- UREDA shall facilitate approval of power evacuation plans and allocation of bays and other related facilities.
- UREDA shall ensure necessary changes in the relevant policies within a period of 60 days from the date of the announcement of this policy.
- UREDA shall develop innovative implementation mechanisms for different project categories.
- UREDA shall monitor the implementation, registration and administration of PPAs with respective Discoms.
- UREDA shall invite proposals on specific orders from the state for conducting a tariff-based competitive bidding process for the selection of solar project developers in accordance with the guidelines issued by the state from time to time as per the provisions in the policy.
- In the event of UERC deciding to discontinue publishing pre-fixed tariffs, UREDA may have the flexibility to call the bids on a competitive tariff basis.
- Prepare progress monitoring frameworks, report challenges/ impediments to SLEC periodically, and prepare and publish action taken on reports.
- Report progress across various categories to the State Energy department and the Central Ministry.
- Measurement and publication of socio-economic benefits from solar power plants, including investments, jobs, livelihoods, education, skilled workforces etc.

9.1.2 Single window facility

- All required approvals/clearances shall be disposed of within 30 days from the date of registration of the projects and 30 days from the date of finalisation of the bidding process for projects developed as per the clauses. All necessary amendments in the concerned Acts of the State shall be notified within 60 days from the date of announcement of this policy.
- UREDA shall assist solar project developers in obtaining all necessary clearances and approvals from different government departments through a single window facility.

9.1.3 Facilitate land allocation

- UREDA may do demand aggregation for the procurement of power for government departments. UREDA shall coordinate with different departments to identify unused land parcels.
- UREDA shall conduct feasibility analyses for the identified sites to evaluate the potential and convert these lands into available land banks for the development of projects across different categories in collaboration with research and technical institutions.
- UREDA shall share the details of the land bank on its website and notice board.

- UREDA shall liaise with the Department of Revenue in setting up the land bank.
- UREDA shall facilitate the allocation and maintenance of land and re-allotment of the land back to the respective departments upon the expiry of the lease agreement and as per instruction of the USPLAC.
- UREDA shall develop guidelines for the development of solar parks on private and Government lands.
- UREDA shall call for EOIs and conclude subsequent formalities for arranging private land banks.

9.1.4 Facilitate deployment of Solar Villages

- UREDA shall be responsible for the creation of VLC, identification of villages for solarisation, devising innovative business models, creating awareness and coordination with relevant departments to facilitate the implementation of the scheme.
- In addition, UREDA shall be responsible for creating a developmental fund for the proceeds from compensation by discom for excess generation. UREDA shall be responsible to manage the fund along with VLC for the development of "renewable energy projects" in the identified solar villages.
- UREDA shall work with Discom to create an enabling framework with direct/indirect benefits for the replacement of conventional applications with solar powered applications.

9.1.5 Solar Purchase Obligation (SPO)

- UREDA, in consultation with UERC, would strive to lower the minimum eligibility requirement to designate an obligated entity and define SPO targets periodically. This would contribute to creating the demand for solar in the state.
- The obligated entities can meet their SPO targets either through the installation of rooftop solar systems (grid-connected, captive or group captive) or through various market mechanisms proposed in the policy, such as open access, subscription to green tariff etc.

9.1.6 Facilitate deployment of rooftop solar

- UREDA shall also support the distribution licensee in developing the protocols and procedures for net metering and VNM, connectivity with the electricity system, and power purchase agreements etc., for the seamless adoption of rooftop solar photovoltaic power plants by the stakeholders.
- UREDA shall develop and maintain the data room in coordination with various government departments and commercial as well as industrial consumers.
- UREDA shall facilitate the project developers in identifying the technically feasible sites/roofs under the jurisdiction of the State Government for the deployment of demand aggregation models and other small-scale solar power plants. UREDA may charge a nominal fee for extending its services. UREDA may also encourage the deployment of solar power plants on sites/roofs under the jurisdiction of private institutions/buildings.
- UREDA, in coordination with Discom, shall develop innovative implementation mechanisms for rooftop solar.
- UREDA shall approach UERC to announce a separate feed-in tariff applicable to solar rooftop power plants.

9.1.7 Payment Security Mechanism (PSM)

- UREDA, in consultation with the departments, shall also set up a payment security mechanism for the sale of electricity to government departments.
- UREDA shall also provide assistance to the developers by engaging with the government department and arranging for documents required for availing finance.
- UREDA shall facilitate the solar plant developer(s) to avail of the subsidy available from the Central and/or State Government.

9.1.8 Budgetary support and other resources support

- UREDA shall undertake a detailed assessment of the support required for encouraging the implementation of targets identified under this policy. UREDA shall submit the fund requirements for consideration by the State Government for budgetary support. In addition, UREDA shall prepare the human resource development plan to execute the responsibilities specified under the policy and submit it to the Department of Energy.
- UREDA shall facilitate seeking financing support for solar for livelihood applications.
- State shall promote the creation of a robust investment climate that enables multiple financial models to develop solar power plants. UREDA shall facilitate with NABARD/Power Finance Corporation (PFC)/REC/Banks in line with priority sector lending or any other financing mechanisms for facilitation in the development of solar energy projects.

9.1.9 Consumer Awareness and Capacity Building

- UREDA shall be responsible for undertaking capacity building in the state in coordination with relevant departments.
- UREDA may also undertake consumer awareness activities along with Discoms among the citizens of the state with a target area but not limited to the urban centers.
- UREDA may develop and maintain a website with educational material and other necessary resources for potential consumers. The website shall have information such as an up-to-date list of contacts to get started, current incentive schemes, resources for finding financial loans, solar integrators and service providers, and other related information to promote educational awareness among consumers.

9.1.10 Research and Development (R&D)

- UREDA shall collaborate with multilateral agencies at local/ National/ International levels to advance solar energy research and development in the state.
- UREDA shall work with relevant departments to support pilot demonstrations for carrying out agrovoltaics projects.
- UREDA may work with the relevant department to support pilot demonstrations for carrying out end-of-life waste management.
- UREDA shall carry out a potential assessment and may devise appropriate provisions for the development of Hybrid Renewable Power Projects.
- UREDA shall undertake research in the following focus areas for further Policy Interventions:

- Identification of actual requirement of storage capacity and suitable technologies considering the demand curve and generation profile of the state.
- Identifying requirements for training/workshops for skill capacity building of human resources to achieve the targeted solar capacity of the state.
- To identify the optimal generation capacity mix of renewable and conventional energy sources, considering possible technology options, to match the future demand curve and energy requirement with the generation profile of the state.
- Grid integration studies for regions with available areas for installation based on the solar data bank.
- Undertake potential assessment exercises, load flow studies and impact assessments on consumers and utilities for various distributed solar technologies.
- Conduct landscape assessment of potential DRE livelihood applications in the rural areas of the state and suitable business models.
- Evaluate the feasibility of solar plus storage projects in the state - identifying optimal feed-in-tariff rates.
- UREDA, along with UERC, may conduct pilot studies/ feasibility studies for the operationalisation of peer-to-peer trading.

9.2 Uttarakhand Electricity Regulatory Commission

- UERC shall, on a priority basis, notify appropriate regulatory framework for promoting and deploying grid-connected solar power plants in the state. The regulatory framework may include enabling provisions for implementing the policy.
- UERC shall amend the UERC (Tariff and Other terms for supply of electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2018 to incorporate the provisions regarding the cap on rooftop solar installation provided in the Uttarakhand State Solar policy 2023.
- UERC, as per Electricity Act 2003, shall notify the Rooftop Solar PV Grid Interactive Systems and Net /Gross Metering Regulations including VNM. UERC may specify a suitable framework for implementing net/gross energy metering regulations for developing solar power plants.
- To promote consumers to opt for green energy, UERC shall introduce a 'Green Tariff' for all consumers, including extra high voltage, high voltage, and low voltage categories. UERC shall also notify the provisions of green banking in line with the policy.
- In addition, UERC shall introduce time-of-the-day solar energy feed-in tariffs to encourage storage operators to feed-in energy into the grid when demand is high. UERC shall announce separate feed-in tariffs for rooftop solar power plants for residential, agricultural and institutional consumers.
- UERC shall promote peer-to-peer trading through amendments to 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 from time to time.

- Electricity tariff applicable for all Public and Captive charging stations for commercial use (i.e. charging facilities used by fleet owners) shall be notified by UERC.
- Nothing in the Uttarakhand State Solar Policy shall be deemed to limit or otherwise affect the power of the Commission to make an order as may be necessary to meet the ends of justice.

9.3 Transmission and Distribution Licensee

- The State Electricity Transmission Utility and Discom will extend their support and guidance to the eligible entities in installing solar power plants and their connectivity with their electricity system. They will suitably comply with the regulatory framework specified by the UERC and the provisions contained in this policy.
- Discom will, at the request of UREDA from time to time, also provide UREDA with information on the nearest evacuation point and substation capacities for the identified sites under project categories specified in section 11. Discom should update the status of solar capacity installation for distribution transformers on its website to make the process transparent.
- The bidding under the centrally sponsored schemes shall be carried out as per the provisions specified in the scheme document or directions as updated by the Central Government from time to time.
- Discom shall do PPA as per the regulatory framework specified by UERC.
- Discom may provide NOC for the development of the solar park for the sale of electricity to third-party consumers under open access.
- For augmentation of transmission/distribution systems to evacuate the power from the receiving substation, Transco/Discom shall develop/augment the necessary transmission/ distribution network within the specified timeframe.
- Discoms shall take appropriate technical measures for ensuring grid stability and safety.
- Discom shall promote online applications for net metering. Discom shall also display online the status of all net metering applications received, whether online or offline. Discom shall maintain a database of net metering application requests, approval status, installation and commissioning data, which will be submitted to UREDA on a quarterly basis.

9.4 Developers

- Developers shall have to comply with waste management rules mentioned in the bidding document. The relevant agency shall make compliance mandatory while designing the bidding document.
- In the case of a third-party PPA signed directly with the consumer (RESCO model), the developer will be responsible for providing appropriate technical details of the solar installations on the consumer's rooftop to Discoms.
- Developers shall have to register their projects with UREDA, including the captive solar power plants installed behind the meter. The registration shall be a prerequisite for final clearance from the Chief Electrical Inspector of Uttarakhand.

10. Governance

10.1 Technical Appraisal and Financial Committee:

The Technical Appraisal and Financial Committee shall be formulated to conduct the technical and financial viability of the project (TAFC) and refer them further to SLSC and SLEC. The TAFC will consist of the following members: -

Additional Secretary/Deputy Secretary, Department of Energy or its Representative	Chairperson
Additional Secretary/Deputy Secretary, Department of Finance or its Representative	Member
Chief Project Officer, UREDA, or it's Representative	Member
GM/DGM (Commercial), UPCL, or it's Representative	Member
GM/DGM (Project), PTCUL, or its Representative	Member
Electrical Inspector, Department of Energy, or its Representative	Member
Dy. Chief Project Officer (Solar), UREDA, or its Representative	Member

10.2 State Level Screening and Empowered Committee

For approvals of utility-scale solar projects with a capacity of less than 5 MW at a single location, an SLSC will be constituted under the chairmanship of the Principal Secretary / Secretary, Department of Energy, Govt. of Uttarakhand. The SLSC committee shall meet at least once every quarter to track the progress and take decisions on project approvals. The committee will have the following members: -

Principal Secretary /Secretary, Department of Energy	Chairperson
Director, UREDA	Member & Convener
Managing Director – UPCL or its Representative	Member
Managing Director–Power Transmission Corporation of Uttarakhand Ltd. (PTCUL) or it's Representative	Member
Secretary, Department of Revenue or it's Representative	Member
Secretary, Department of Finance or it's Representative	Member
Secretary, Department of Industries, or its Representative	Member
Principal Chief Conservator of Forests (PCCF), Department of Forest, Environment and Climate Change or it's Representative	Member

Secretary, Department of Agriculture or it's Representative	Member

For the approval of utility-scale solar projects above 5 MW at a single location or to undertake any strategic decision other than approval related to solar targets of the state, a SLEC shall be constituted under the chairmanship of the Chief Secretary of the State. The SLEC committee shall meet bi annually to monitor the progress and take decisions in case of any ambiguity, dispute, difference, or issue in the implementation of the policy. UREDA may submit the progress report to the SLEC committee bi-annually. The committee will have the following members: -

Chief Secretary – Government of Uttarakhand	Chairperson
Principal Secretary / Secretary, Department of Energy	Member & Convener
Principal Secretary / Secretary, Department of Finance	Member
Principal Secretary / Secretary, Department of Planning cum Finance	Member
Principal Secretary/ Secretary, Department of Revenue or it's Representative	Member
Principal Secretary/ Secretary, Department of Forest, Environment and Climate Change or it's Representative	Member
Principal Secretary/ Secretary, Department of Industries, or it's Representative	Member
Principal Secretary/ Secretary, Department of Agriculture or it's Representative	Member

For the allotment of land, the Uttarakhand Solar Power Land Allotment Committee (USPLAC) shall make all decisions related to the land allotment. The committee shall also be responsible for returning back land to the respective department after the expiry of the lease agreement. The committee will have the following members:

Chief Secretary – Government of Uttarakhand	Chairperson
Secretary /Principal Secretary, Department of Energy	Member & Convenor
Secretary/ Principal Secretary, Department of Revenue	Member
Secretary, Department of Water Resources	Member
Secretary, Department of Agriculture	Member

10.3 Mid-term review

State Government may undertake a mid-term review of this policy after a period of two years or as and when the need arises in view of any technological breakthrough or to remove any inconsistency

with Electricity Act 2003, rules and regulations made there under or under any Government of India policy. Retrospective amendments to the incentives available under this policy shall be avoided to ensure investor confidence in the state and in the sector.

10.4 Relevant departments

All concerned departments and organisations would issue necessary follow-up notifications within sixty days to give effect to the provisions of this policy. The concerned departments are listed below:

- Department of Agriculture
- Department of Commercial Taxes
- Department of Energy
- Department of Forest, Environment and Climate Change
- Department of Industries
- Department of Planning
- Department of Finance
- Department of Commercial Taxes
- Department of Revenue
- Department of Stamps and registration
- Department of Rural Development
- Development of Urban Development
- Department of Town and Country Planning
- Department of Employment and Training
- Department of Panchayati Raj
- Department of Irrigation
- Department of Tourism
- Department of Water Resources
- State Pollution Control Board
- State Rural Livelihood Mission
- Uttarakhand Electricity Regulatory Commission
- Uttarakhand Power Corporation Limited

10.5 Power to remove difficulties

If there is any ambiguity, dispute, difference, or issue in regard to the interpretation/ implementation of this policy, the SLEC may take the decision in such matters, not inconsistent with the provisions of the policy, as may appear to be necessary and expedient for removing the difficulties either on its own or after hearing those parties who have represented for change in any provision.

10.6 **Power to Amend**

The Chief Minister of the state of Uttarakhand, may, at any time add, vary, alter, modify or amend any provision of these regulations.

(R. Meenakshi Sundaram)
Secretary