

Uttar Pradesh Solar Energy Policy -2022
(Draft)

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1. Preamble

Growing concerns of global warming and climate change require emphasis on clean and green energy.

Over past several decades, demand for power has grown and renewable energy has become commercially viable, therefore, the state utilities and other stakeholders like Regulatory, power management companies, Government and consumers have increased interest and focus on renewable energy. To achieve a sustainable development route that provides for advancement in economic as well as environmental objectives, the Government of Uttar Pradesh is determined and is taking necessary steps to encourage the generation based on renewable energy sources.

The State has vast and largely untapped potential and availability of vast barren/un-cultivable unutilized government/private land in Bundelkhand. This has potential to make Uttar Pradesh a highly preferred destination for solar energy at the global level.

To meet the global commitment Government of India has fixed a national target of 500 GW installations from Non Fossil Fuels. Out of which as per CEA report on "Optimal Generation Capacity mix for 2029-30", 280 GW will come from Solar Energy. This will reduce dependence on conventional sources of energy by promoting non-conventional energy sources.

Although Solar Energy is a day time energy it becomes necessary to promote storage systems to ensure Round the clock power supply at the same time this is also necessary to ensure grid stability in a long run. Uttar Pradesh values the commitment to develop Round the clock Power using Non conventional Energy sources.

To align with India's ambitious solar PV capacity expansion program, the State envisages to accelerate the deployment of solar power by means of implementation of large-scale

projects, small scale distributed systems, establishment of ultra-mega solar parks and Rooftop solar PV projects. These targets will be achieved by introducing new mechanism that will support consumers, businesses and developers in the sector.

Accordingly, State Government of Uttar Pradesh hereby declares and adopts **Solar Energy Policy, 2022**.

2. Vision and Objectives

- a. To provide low cost and reliable power to the people of Uttar Pradesh.
- b. To reduce the dependence on fossil fuels and achieve “optimal energy mix” of conventional and renewable power, ensuring energy security in the State.
- c. To provide hassle free conducive environment for private sector investment in the field of solar Energy generation and storage Encourage participation of Private Sector and provide investment opportunities for harnessing solar energy.
- d. Human resource development particularly to renewable energy skill enhancement and generation of employment opportunities.
- e. To spread awareness about solar power technologies amongst all the electricity consumers.

3. Title and Operative period

- 3.1 This policy shall be known as “**The Uttar Pradesh Solar Energy Policy 2022**”
- 3.2 This policy shall come into operation from date of issuance and shall remain in operation for a period of five (5) years or till the Government notifies the new policy whichever is earlier.
- 3.3 State Government may amend/modify/review his Policy as and when required.

4. Definitions

4.1 In this Policy, unless the context otherwise requires:

1. "**Act**" means Electricity Act, 2003, including amendments thereto;
2. "**ABT**" means Availability Based Tariff;
3. "**CAPEX Mode**" means the mode under which entire investment is to be incurred by the power consumer for installation of solar power plant;
4. "**CEA**" means Central Electricity Authority;
5. "**Central Agency**" means National Load Dispatch Centre (NLDC) as designated by the Central Electricity Regulatory Commission vide Order dated 29.01.2010 for the purposes of the REC Regulations;
6. "**CERC**" means the Central Electricity Regulatory Commission, constituted under sub-section (1) of Section 76 of the Electricity Act, 2003;
7. "**CERC REC Regulations**" means Central Electricity Regulatory Commission (Terms & Condition for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 notified by CERC vide Notification dated 14.01.2010 as amended from time to time;
8. "**Contract Demand**" means regular contract demand plus standby contract demand, if any, of the Consumer with DISCOM;
9. "**COD**" means Commercial Operation Date, i.e. the date when the Power Plant gets commissioned as per rules/provisions;
10. "**CPP**" or "**Captive Power Plant**" means Captive Power Plant as defined in Electricity Act, 2003 and Electricity Rules, 2005;
11. "**DISCOM of Uttar Pradesh**" means a distribution licensee of the State, such as MVVNL, DVNL, PVVNL and PuVNL,
12. "**Financial Year**" means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
13. "**Generating Plant Sub-station/Pooling Sub-Station**" means Sub-station developed by the Solar Power Producer/Developer for interfacing with the receiving sub-station;

14. **“Government” and “State”** mean Government of Uttar Pradesh and the State of Uttar Pradesh respectively;
15. **“Gross Metering”** means methodology under which the entire electricity generated by the rooftop/ ground mounted Solar PV System set up in the premises of the consumer is delivered to the distribution system of the licensee;
16. **“GST”** means Goods and Services Tax;
17. **"IREDA"** means Indian Renewable Energy Development Agency;
18. **“ISTS”** means Inter State Transmission System;
19. **"Licensee"** includes a person deemed to be a licensee under Section 14 of the Electricity Act, 2003;
20. **"MNRE"** means Ministry of New and Renewable Energy of Government of India, responsible to develop and deploy new and renewable energy for supplementary energy requirement of the country;
21. **Net Metering”** means the methodology under which electricity generated by the Rooftop/Ground mounted Solar PV System setup in the premises of a consumer under the CAPEX/RESCO mode is primarily for self consumption, and the surplus generated electricity, if any, is delivered to the distribution licensee which will be off-set against the electricity supplied by the distribution licensee to the consumer during the billing cycle;
22. **“Nodal Agency”** means UP New and Renewable Energy Development Agency (UPNEDA)
23. **“Person”** means an individual or a firm/ company registered under the Companies Act 1956;
24. **"PPA"** means Power Purchase Agreement;
25. **"Pooling Station"** means sub-Station developed by the Developer for interface with the Receiving Sub-station;
26. **“Project Capacity”** shall mean the maximum Alternating Current (AC) capacity at the delivery point;
27. **“Renewable Energy Certificate” or “REC”** means the Renewable Energy (Solar) Certificate issued by the Central

Agency in accordance with the procedure prescribed by it and under the provisions specified in this regard by the Central Electricity Regulatory Commission (Terms & Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010;

28. **“UPERC”/“Commission”** means Uttar Pradesh Electricity Regulatory Commission;
29. **“RESCO Mode”** means the methodology in which entire investment is to be incurred by a company/individual other than the consumer for setting up of the solar power project in the consumer premises and the consumer pays for the electricity generated from such solar power project at mutually agreed tariff to such investor company/individual;
30. **“RPO”** means Renewable Purchase Obligation;
- 31 **“SECI”** means the Solar Energy Corporation of India;
- 32 **“Solar Farm/Park”** means a group of solar power plants in the same location used for the generation of electric power;
- 33 **“Solar Power Park Developer”** means a person who develops and/or maintains solar parks and the related common infrastructure facilities;
- 34 **“Solar Power Producer/Developer”** means a person that makes an investment for setting up of solar power project and generating electricity from solar energy;
- 35 **“Solar Plant/Solar Power Plant”** means a power plant or system utilizing solar energy through solar photo-voltaic or concentrated solar thermal devices for generating electricity
- 36 **Solar PV Power Plant** means Solar Photo Voltaic (SPV) Power Plant that uses sunlight for direct conversion into electricity through Photo Voltaic technology;
- 37 **Tariff** means the schedule of charges for generation, transmission, wheeling and supply of electricity together with terms and conditions for application thereof;
38. **“State Agency”** means Uttar Pradesh New and Renewable Energy

Development Agency or any other agency designated by the Rajasthan Electricity Regulatory Commission for accreditation and recommending the Renewable Energy Project for registration with Central Agency in accordance with the procedure prescribed by it and under the provisions specified in the CERC REC Regulations;

39. "State Load Dispatch Centre" or "SLDC" means the Centre established by the State Government for the purposes of exercising the powers and discharging the functions under Section 31&32 of the Electricity Act, 2003;

40 WBA" means Wheeling and Banking Agreement.

The terms not defined above will have their usual meanings.

5. Policy Target

i) The Policy aims to achieve at argetof16000MW Solar Power Projects up to 2026-27 in the Stateasunder:

S.No.	Particulars	Capacity
1	Utility/Grid Scale Solar Projects/Parks	10000 MW
2	Solar Rooftop	4,000MW
3	Distributed Solar Generation	2000 MW
4	Employment Generation	10000 No's

ii)Uttar Pradesh Power Corporation Ltd (UPPCL) through its DISCOMs will purchase solar energy as per the Renewable Purchase Obligation (RPO)as determined by UPERC.

iii) State will endeavor to develop Solar Power Projects for captive consumption and sale of power to third parties other than Uttar Pradesh Power Corporation Ltd, Interstate and Intrastate.

This Policy also aims to promote Solar Energy asunder:

- a) Development of Solar Parks.
- b) Promotion of small Decentralized Grid Connected Solar Power Projects by solarization of segregated agriculture feeders.
- c) Promotion of solar installations along expressways and Railway tracks.
- d) Promotion of floating/canal top/ reservoir top solar power projects.
- e) Promotion of Solar Energy projects with storage systems.
- f) Promotion of Rooftop Solar Projects through Net Metering and Gross Metering mechanism or in any other manner as per the provisions of Electricity Act, 2003 and relevant Regulations/Orders issued by UPERC.
- g) Promotion of Off-Grid Solar applications like Solar Water Pumps, home lighting systems, water heater, etc.
- h) Strengthening of Transmission Network for evacuation of Solar Projects by development of Green Energy Corridor in Bundelkhand region.

- i) Promotion of manufacturing industries of solar energy equipment.

6. UPNEDA to act as Nodal Agency

Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) will be the nodal agency for implementation of this policy.

6.1 Role of Nodal Agency:

The Nodal Agency will facilitate and assist the project developers and under take the following activities to achieve the objectives of the policy.

6.1.1 Registration of Solar Projects

To act as a single window to cater all type of solar Projects on behalf of the Govt of Uttar Pradesh

6.1.2 Approval of Solar Power Projects includes facilitation of Projects for competitive bidding, PPA, statutory clearances, coordination with MNRE and other central Agencies, facilitation for approval of Power evacuation Plan and allocation of Bays .

6.1.3 Bidding of Projects:

The Nodal agency will be responsible for carrying out all the tasks related to bidding process for Solar Power Projects in the state.

6.1.4 Facilitation for Government Land/Space

Facilitate allotment of suitable land/space in control of State Government or its agencies.

- Land Bank of land not suitable for agriculture and waste lands will be created by UPNEDA across the State and specifically in Bundelkhand region.
- Land Parcels of the Gram sabha/panchayat and revenue and will be resumed in favour of Department of Additional Energy Sources /UPNEDA
- Land will be provided to the State Govt. and the Central Govt. PSU's on lease for a period of 30 years.

- Land leasing will be done for these PSU's at Rs. 1 per acre per year for a period of 30 years. This land will be non transferrable.
- Land on suitable lease rent fixed by Government may be provided to private sector for for 30 years.

6.1.5 Nodal Agency for recommendation of accreditation of Solar Power Projects under REC mechanism.

6.1.6 Training

UPNEDA conducts training programme to develop skilled manpower in the field of solar energy.

6.1.7 Formulating of Subsidy Scheme available to installation of Rooftop Solar Power Plants in Residential /Government /Institutional Sector

Nodal Agency shall formulate scheme to provide for State subsidy.

7. Rooftop Solar PV Projects

State Government will facilitate installation of Solar PV Rooftop systems across the State .It will facilitate Net metering in Residential, Government/Govt owned Public Sector Institutions and all Educational institutions across the State. It proposes to establish "Solar Cities" across the State with emphasis on Solar Rooftops and other allied off-grid solar installations.

The Discom will allow Solar Rooftop capacity addition upto 75% of Distribution transformer of the area as per UPERC RSPV Regulation 2019 and amendments thereof.

In order to facilitate Solar Rooftops and net metering, a committee(Solar cell) is being established in each district under the chairmanship of Chief Development Officer of the concerned district. It consists of officers of the Discom in the district as well as district level officer of UPNEDA.

MSME and Startups will be promoted for installation of Solar Rooftops.

7.1. Government/Govt. owned Public Institutions/Educational Institutions

The Government of Uttar Pradesh shall promote deployment of rooftop solar photovoltaic plants for captive/self-consumption on the offices of the government organizations/Govt PSU/State government owned institutions under Net metering mechanism. Benefits such as banking facility and payment of surplus energy by DISCOMS under net metering scheme will be applicable to Govt offices, Govt schools, Govt colleges,

Govt Hospitals and any other Govt building notified by State Govt . Installation of Rooftop solar photovoltaic plants through third party (RESCO mode){Renewable Energy Supply Company} will be encouraged in these organizations .In this arrangement power purchase agreement between consumer and Third Party and Net-Metering interconnection agreement between consumer and electricity distribution company will be executed.

- i) Solar Rooftop Installations of total capacity 500 MW in Government Buildings and Government PSU Buildings will be targeted .
- ii) Atleast 21000 un-electrified Primary Schools across the State totalling a capacity of 40 MW will be covered with Solar Rooftop installations.
- iii) Secondary schools, Govt colleges, Technical Institutions and Universities across the State shall be covered in phased manner with Solar Rooftops..
- iv) Nagar Nigam assets will be solarised using Solar Rooftops
- v) All the public institutions such as hostels & training institutions, libraries, establishments of Indian railways, in the State, research and development organization, rest houses, holiday homes, inspection houses etc those who are owned by the government shall endeavor to install grid connected rooftop solar photovoltaic power plant and generates & consume some percentage of their annual electricity consumption from such plant. Capacity of Grid connected rooftop solar photovoltaic power plant to be installed will be as UPERC RSPV Regulations 2019 or as amended from time to time.
- vi) A revenue model is being developed whereby Nodal Agency, UPNEDA will play an active role in collection of demand for installation of Grid connected Solar Rooftop Power Plants from Government departments. UPNEDA will finalize model contract conditions, Standard PPA's and carry out competitive bidding for discovery of tariff and selection of

RESCO's for implementation of Grid connected Solar Rooftop Projects on Government buildings.

7.2.2 Solar Rooftop in Residential Sector

The Government of Uttar Pradesh shall encourage installation of suitable capacity Grid connected rooftop solar power plant in Residential buildings.

- ii) 20 cities of State will be developed as Solar cities involving covering 10 lakh residential households across the state in 5 years with Solar Rooftop installations.
- iii) Cities selected are Lucknow, Kanpur, Prayagraj, Agra, Varanasi, Ghaziabad, Meerut, Bareilly, Aligarh, Moradabad, Saharanpur, Gorakhpur, Noida, Firozabad, Jhansi, Muzaffarnagar, Mathura, Ayodhya, Azamgarh, Mirzapur.
- iv) Net Metering Facility will be given to residential consumers as per regulations as notified by Uttar Pradesh Electricity Regulatory Commission from time to time.
- v) Time Period of Installation of Residential Rooftop Solar Systems will be as follows:-

S.no	Activity	Responsibility	Maximum Time Period
1	Submission of Application	Consumer	-
2	Acknowledgment of Application	Discom/UPNEDA	1 Day
3	Site Verification and technical feasibility	Discom	7 Days
4	Installation of Rooftop Solar System	Vendor	90 Days
5	Solar and net metering testing	Discom	7 Days from Depositing of metres

6	Execution of net metering agreement	Discom	3 days from Submission of Draft agreement
7	Commissioning /connection of Rooftop system	Discom	3 days after net metering agreement
8	Issuance of Joint Commissioning Report	Discom, vendor and beneficiary	1 day after commissioning
9	Release of Central Financial assistance to consumers	MNRE	30 days after JCR
10	Release of State Financial assistance to consumers	UPNEDA	15 days after JCR

7.2.3 Incentives :

The following incentives shall be available to the Grid connected Rooftop Solar PV Plants implemented by the eligible entities, as applicable, during the Operative Period of the policy.

- (i) To promote large scale installation of Grid connected Rooftop systems under Net-Metering arrangement in private residential sectors in addition to central financial assistance available from Government of India, State Government will provide subsidy of Rs 15000/KW to a maximum limit of subsidy Rs 30000/- per consumer. Subsidy will be disbursed to beneficiary after successful installation and commissioning of Rooftop Solar Systems with net metering and submission of all documents to the State Nodal Agency (UPNEDA).
- (ii) This subsidy will be in addition to any Central Financial Assistance available from Ministry of New and Renewable Energy, Government of India which would be dispersed by State Nodal Agency.
- (iii) For disbursement of State Subsidy, portal will be integrated with National portal for direct beneficiary Transfer of subsidy (DBT) and DISCOM portal will also be integrated with UPNEDA portal. The

height of the module structure of rooftop solar panels, will not be considered additional in computing the total height of the building as permitted under building bye laws. In case of installation of solar rooftop project, no additional permission will be required from the local development authorities/local bodies on this account.

- (iv) In case of multi storied buildings, residential colonies, commercial buildings, etc, Solar Rooftop Systems could be located at common facility area; the same could supply to the bulk power connection or connection for common facilities therein, and, in other cases, without hindering or encroaching upon the lawful rights of the other occupants.
- (v) Grid connected Solar Power Plants of capacity up to 10 kW, will be exempted from the inspection by the State Electrical Inspector.
- (vi) Solar Rooftops of capacity upto 2 Megawatt are allowed to be installed as per UPERC RSPV Regulations as amended from time to time.

7.2.3 Metering Arrangement, Evacuation Voltage & Interconnection with the distribution system:

Metering arrangement, evacuation voltage of electricity generated from Solar Power Plants and interconnection of the Rooftop Solar Power Plant with the network of the distribution licensee will be as per UPERC RSPV Regulations 2019 and as amended from time to time.

8. Off -Grid Solar Applications

8.1 The State will promote and incentivize off-grid solar applications, including hybrid systems, to meet various electrical and thermal energy requirements for domestic and commercial use.

8.2 The State will promote setting up of off-grid solar systems like Solar Power Plants, Solar Street Lights and Solar PV Pumps in Anganwadi Centers, Schools etc.

8.3 The State will also promote setting up of stand- alone Solar Power Pack systems to provide electricity to households in remote villages/ hamlets.

8.4 The State will promote setting up of Solar Cold Storages to increase the shelf life of agriculture produce and enhance the farmer's income.

9. Utility Scale Grid Power Projects

9.1 Solar Power Projects for sale of power to Distribution Licensee in Uttar Pradesh:

The State will promote setting up of solar power projects for sale of power to DISCOMs on the tariff discovered through competitive bidding process as per Ministry of New and Renewable Energy (MNRE), Government of India guidelines according to Renewable Purchase Obligation (RPO) target fixed by UPERC.

9.1(a) Utility Grid Power Projects of capacity 0.5 MW to 5 MW

The State will promote solarization of Segregated Agriculture feeders as per the provisions/guidelines issued by DISCOMs based on Regulations of UPERC/Guidelines of Central/State Government.

In the policy duration, 2000 MW capacity of solar projects will be installed under RESCO mode at distribution sub stations for solarisation of the segregated Agriculture feeders. Out of total 4390 existing Agriculture feeders in the State 2277 Agriculture feeders of capacity 2200 MW have been segregated. The State is in the process of segregating these Agriculture feeders and subsequently solarizing them. This is a sector where State Government and Central Government incentivizes investment through Private sector by providing subsidies. The State Govt will provide matching subsidy in addition to central government subsidy in solarization of Agriculture feeders. The present subsidy given by central government is 30 % of the total cost with a ceiling of 1.05 Cr. per MW.

The tariff of these projects will be determined on basis of tariff-based competitive bidding process as per the guidelines of MNRE, Govt of India/ State Govt.

9.1(b) Utility Grid Power Projects of capacity 5 MW and above 5 MW

Minimum capacity of these projects at one location will be 05 MW Solar Power Projects will be awarded through competitive bidding process as per Ministry of New and Renewable Energy (MNRE), Government of India guidelines.

Incentives:

For grid connectivity of Stand alone Solar Power projects of capacity 5 MW and above proposed to be set up in Bundelkhand and Purvanchal region, State Government will bear the cost for construction of maximum transmission line length as follows:-

For 05 to 10 Megawatt capacity-10 Kilometer

For >10 megawatt to 50 megawatt capacity -15 Kilometer

For >50 megawatt capacity - 20 Kilometer.

Project developer will construct the transmission line on its own .The cost of above mentioned length of transmission line will be reimbursed to Project Developer after the commissioning /COD of Project by UPNEDA. Expenditure on construction of transmission line will be verified by executives of UPPTCL.

Project Developer will bear the remaining cost for construction of transmission line, bay and substation.

Other charges will be applicable as per the UP Electricity Regulatory Commission (UPERC) regulations, as amended from time to time.

ii Power Pooling arrangement will be allowed in case of small capacity projects.

9.2 Solar Power Projects for sale of power to Third party or Captive use:

Projects may be set up by the developers with the intention to sell power to third party or for 100% captive use or part captive use and sell part generation to third party. Uttar Pradesh is a State of growing investment opportunities created by its vision to set up a one trillion dollar economy. Many power guzzler industries require solar energy to reduce their thermal demand. The MSME sector like the glass industry, brass industry, textiles etc are in the process of auditing their energy consumption. New industry like the data centre which are coming up in the State are potential consumers for open Access. Thus creating opportunity for the private sector to invest in solar energy. The State will provide the following incentives under open Access above 1 MW.

- (i) Exemption of 50 % on wheeling charges/transmission charges on Intrastate Sale of Power to third party or in case of Captive use. This exemption will be applicable as per technical feasibility and U.P. Electricity Regulatory Commission (UPERC) regulations, as amended from time to time. Distribution/Transmission losses and cross subsidy surcharge will be applicable as per UPERC regulations, as amended from time to time.
- (ii) As Uttar Pradesh is a power importing State cross subsidy surcharge and wheeling charges/Transmission charges will be exempted 100 % for Intrastate Transmission system on Interstate sale of solar power.
- (iii) Metering for sale of solar power shall be done at STU/Distribution licensee substation end.

9.3 Solar power projects set up of floating /reservoir/canal top

The State will promote setting up of floating/reservoir top/canal top Solar Power Projects for sale of power to DISCOMs through competitive bidding or for captive use/third party sale. The State

10. DEVELOPMENT OF SOLAR PARKS

Solar Parks

Solar Park is a concentrated zone for development of solar power projects. It provides a well demarcated area with proper civil and power system infrastructure to a power producer, where the risk in projects is minimized and the fast approval process is facilitated. The Solar Power Park Developer creates supporting infrastructure and facilities including power evacuation, water arrangements, internal roads and administrative facilities.

State Government will promote the development of integrated solar parks by utilizing waste lands in the State for generation of power. To encourage private participation in development of Solar Parks, project developers will be provided “plug and play” options in Solar Parks being set up..

Green Energy corridor is being set up in Bundelkhand Region of the State to facilitate evacuation of power of 4000 MW capacity solar projects which is amenable for enhancement in capacity depending on the Private investment.

10.1 Development of Solar Parks by Private Sector

Development of Solar Parks by private companies shall be promoted in the State. The SPPD will develop power evacuation systems, roads, lighting system ,water supply system and other administrative support systems. Government of U.P will provide the following Incentives for development of Solar Parks in private sector:

- (i) Connectivity to the nearest Grid substation subject to technical feasibility.
- (ii) 100 % Third party sale of power under open access above 1MW.
- iii) The State will provide Govt land on lease at very subsidized rates in order to promote investment in this sector.

10.2 Development of Public Sector Solar Parks through Joint Venture Companies (JVCs)

10.2.1 The State Government on its own or through any other agency

designated by it will promote setting up of Ultra Mega Renewable Energy Power Park (UMREPP) in joint venture with Central /State Government Public Sector Undertakings (PSU or a Special Purpose Vehicle (SPV) of the State Government. The State has already set up three Joint ventures named Lucknow Solar Power Development Corporation Ltd (LSPDCL), Bundelkhand Saur Urja Pvt Ltd (BSUL) and TUSCO which are Joint ventures between UPNEDA and SECI, NHPC and THDC India Ltd respectively.

Government of U.P will provide the following Incentives on development of such Solar Parks: _

- (i) Land on lease or Right to use basis at Rs. 1 per acre per year for a period of 30 years for development of Solar Park. This land will be non-transferrable
- (ii) Connectivity of Solar Park to the nearest transmission Substation subject to availability of Technical feasibility.
- (iii) Power will be purchased by UPPCL as per its RPO .
- (iv) 100 % Third party sale of power under open access above 1MW

Location of the Solar Park shall be finalized in consultation with State Transmission utility to optimize the cost of transmission. Allocation of the Solar Power Projects inside the Solar Park will be done through competitive bidding as per guidelines of Ministry of New and Renewable Energy (MNRE), Government of India .

11. Solar Power Projects with Storage Systems

11.1 Solar Energy is a daytime energy available for a particular period of time, this leads to variability of output of solar power injected into the grid. In order to reduce the variability the State will promote solar power projects with storage systems in the form of battery storage, pumped hydro storage or any other Grid interactive system.

11.2 The minimum rated energy capacity of an energy storage system shall be equal to 4 hour storage capacity of the installed capacity of the project in MW.

11.3 The State will facilitate Research and Development of storage technologies including generation of Green hydrogen for hydrogen fuel cells .

12. Allotment and Procurement of Land

Land has been a major constraint in the development of Solar Power Projects in the State of U.P .In order to streamline the availability of land and avoid procedural delays ,the state nodal agency UPNEDA endeavors to set up land bank for upcoming projects especially in Bundelkhand region of Uttar Pradesh .

12.1 Solar Power Projects in Government Land

Gram Sabha/ Panchayat or Government Revenue land will be allotted to Solar Park /Solar Power Projects being set up by Joint Venture Companies formed with Central Government/State Government as per the provisions of Uttar Pradesh Revenue Code -2006 as amended from time to time. The Solar Power Park Developer from the private sector will be given Government land on lease for a period of thirty years at a rate of Rs 15000 per acre per year on non transferable basis .The ownership of land shall vest with the Department of Additional Energy Sources, Govt of Uttar Pradesh. The Solar Power Park developer from the private sector shall be allowed to sub-lease or provide this Government land at the same rate or Right to Use Basis to Solar Project Developer for setting up of Solar Power Projects.

12.2. Solar Power Projects on Private Land

12.1.1 The State will promote setting up of Solar Power Project/Solar Farm on private land. Developer shall be permitted to set-up Solar Power Project/Solar Farm on private agriculture land .The State shall provide facility of deemed land conversion from Agriculture use to Non Agriculture use on approval by the State Nodal Agency.

12.1.2 Solar Power Producers shall also be allowed to procure private land for setting up of Solar Power Plant in excess of ceiling limit in accordance with the

provisions of Uttar Pradesh Revenue Code 2006. The exemption to the ceiling limit will be deemed after approval of the project from the State Nodal Agency.

12.1.3 Private land will be allowed to be given on lease for development of solar Power Projects for a period of thirty years on Right to use basis. The land ownership of this land will be non-transferable and will remain with shareholder. The price of land lease will be determined at market rates on a yearly basis upto thirty years .The District Collector will facilitate the solar power developer in leasing of land from the land owners through creating a platform for both parties to come together .

12.2 Stamp Duty

100 % exemption on Stamp duty on the land used for setting up of solar power plant/solar park in entire State of Uttar Pradesh

13. Incentives & Facilities available to Solar Power Projects

13.1 Facilitation of Govt land & Private land for lease upto thirty years

The State will provide Govt land for development of solar power projects through lease for a period of thirty years .The Government land will be given on lease at a rate of Rs 15000/acre per year for a period of thirty years. UPNEDA will create land banks for the investment in Solar Power Projects .Already land has been identified in the Bundelkhand region of the State for this purpose. Similarly leasing of Private land will also be facilitated by the State Government through the District collector. Facilitation with respect to Non Agriculture conversion and exemption from land ceiling will also be provided by the State.

13.2 Stamp Duty

The State shall provide 100 % exemption on stamp duty on the land used for setting up of Solar Power Plant /Solar Park.

13.3 Capital Interest Subsidy

The State Government shall provide capital Interest subsidy to the extent 5 % per annum for five years in the form of reimbursement on loan taken for procurement of plant and machinery subject to annual ceiling of 50 Lakhs .This subsidy will be applicable to Utility scale Solar Power Projects with a capacity more than 5 MW .

13.4 Infrastructure subsidy

The State Government shall provide a capital subsidy for transmission systems to evacuate solar power .This capital subsidy will only be provided to Projects having PPA with UPPCL. This capital subsidy will be in the form of reimbursement for Solar Power projects of capacity 5 MW and above proposed to be set up in Bundelkhand and Purvanchal region. State Government will bear the cost for construction of maximum transmission line length as follows:-

For 05 to 10 Megawatt capacity-10 Kilometer

For >10 megawatt to 50 megawatt capacity -15 Kilometer

For >50 megawatt capacity - 20 Kilometer.

13.5 Energy Banking:

Banking of energy in every financial year shall be permitted, subject to verification by the officials of the concerned State Distribution Company as per banking provisions of UPERC CRE Regulations 2019 and as amended from time to time Facility of Banking will be available to projects for entire useful life of Project or 25 years whichever is less .

13.6 Electricity Duty

Electricity duty for ten years shall be exempted for sale to Distribution licensee, captive/Group captive consumption and third party sale in respect of all solar projects set up within the state

13.7 Incentives available from Government of India :

Various incentives allowed by Ministry of New and Renewable Energy (MNRE) for solar projects shall be allowed to the project developer in addition to incentives provided by Govt of Uttar Pradesh.

13.8 Solar PV projects shall be exempted from obtaining Environmental clearance.

13.9 Grid connected Solar PV Projects will be given NOC/ Consent for establishment and operation on application to U.P. Pollution Control Board. This consent would be of a deemed nature.

Summary of Incentives available for standalone power projects with capacity above 5 MW and Solar Power Park developers is as follows:

- Facilities to be given to Stand alone Solar Power Projects capacity above 5MW:

Sno.	Facility	Private Solar Project Developer
1	Connectivity to the nearest grid substation(Subject to technical feasibility)	Provided

2	Third party sale of power under open access above 1MW	100%
3	Power Purchase by UPPCL	As per RPO obligation
4	Transmission Infrastructure subsidy 05MW to 10MW- 10 KM >10MW to 50MW- 15KM >50MW – 20KM	Subject to PPA signed with UPPCL
5	Wheeling and transmission charges (Intra State)	100% tariff exemption (for sale of power to UPPCL), 50% tariff exemption on sale of power(Captive and third party users)
6	Wheeling and transmission charges (Inter State)	As per Govt. of India Regulations(beyond State Periphery) and upto State periphery 100% tariff exemption.
7	Stamp Duty on land purchase/land lease	100% Exemption
8	Electricity Duty	100% Exemption for 10 years
9	Declaration under sec.-80 of revenue code-2016 for non agriculture purposes.	Deemed
10	Land ceiling exemption	Deemed
11	Consent to establish and operate projects from pollution control board	Deemed
12.	Capital Interest subsidy for procurement of plant and machinery	5 % per annum for five years subject to annual ceiling of Rs 50 Lakhs

Facilities to be given to Solar Power Park Developers:

Sno.	Facility	Public Sector Developer	Private Sector Developer
1	Connectivity to the nearest grid sub station(Subject to technical feasibility)	Provided	Provided
2	Third party sale of power under open access above 1MW	100%	100%
3	Power Purchase by UPPCL	As per RPO obligation	As per RPO obligation
4	Stamp Duty on land purchase/land lease	100% Exemption	100% Exemption
5	Electricity Duty	100% Exemption for 10 years	100% Exemption for 10 years
6	Declaration under sec.-80 of revenue code-2016 for non agriculture purposes.	Deemed	Deemed
7	Land ceiling exemption	Deemed	Deemed
8	Consent to establish and operate projects from pollution control board	Deemed	Deemed

14. Approval Mechanism

14.1 State level Empowered Committee

To resolve key bottlenecks in implementation of this policy and resolve any other Inter departmental issues that may arise from time to time, an Empowered committee will be constituted under the chairmanship of the Chief Secretary of the State. The committee will have the following members:-

Chief Secretary	-Chairman
Infrastructure & Industrial Development Commissioner	-Member
Additional Chief Secretary/ Principal Secretary Energy	-Member
Secretary /Principal Secretary, Additional Sources of Energy	-Member
Secretary /Principal Secretary, Finance	-Member
Secretary /Principal Secretary, Planning	-Member
Secretary /Principal Secretary, Revenue	-Member
Secretary /Principal Secretary, Housing	-Member
Managing Director, UPPTCL	-Member
Managing Director, UPPCL	-Member
Director, UPNEDA –	-Member Secretary
District Collector of the concerned district	-Special invitee.

The SLEC will be the final decision making authority for the projects undertaken the solar policy. In particular SLEC will give approval for projects undertaken under clause 9.1(b), 9.3, 9.4, 9.5,10.1, 11 and 15 .

14.2 Department level Empowered committee

Additional Chief Secretary /Principal Secretary	Chairman
Additional Sources of Energy/Energy	
Chairman UPPCL	-Member
Managing Director, UPPTCL	-Member
Managing Director, UPPCL	-Member
Managing Director, Concerned DISCOM	-Member

Special Secretary Finance	-Member
Director, UPNEDA –	-Member Secretary
Technical Expert (as approved by the DLEC)	-Member

The DLEC will approve solar power projects under clause 9.1, approval of clause 12.1, approval of clause 9.2 and clause 10.2 and screening of clause 9.1 (b) , screening of clause 9.3 ,9.4 ,9.5 clause 10.1 and clause 15.

15.Uttar Pradesh Solar Energy Development fund (UPSEDF)

This is a fund created in the development of solar energy in Uttar Pradesh . The corpus of the fund will be created by assistance from State Government, Government of India, and Non Government organization in sector of Renewable Energy.

This fund will enable State Nodal Agency to receive grants in aid from international multilateral and bilateral funding organizations in the field of solar energy. This fund will also enable the State Govt. to meet its commitments under the State Action Plan for climate change for Renewable energy sector. This corpus will be spent on activities to enhance the institutional framework for solar energy. The SLEC will be the final approving authority for any proposed expenditure done under UPSEDF.

16.Time frame for completion of solar Projects.

The timeframe for completion of solar projects will be governed by the timeline mentioned in Bid documents and Guidelines issued by MNRE amendable from time to time .In case of any delay in project execution penalty would be imposed as per the contract.

17.Manufacturing of Solar Equipments

Solar Energy Equipment manufacturing facilities will be encouraged in the State leading the development of solar energy eco system and to facilitate employment generation.

Benefits of Micro, Small and Medium Enterprises (MSME) policy and Industrial policy will be made available to eligible manufacturers.

100% exemption in Electricity duty for 10 years will be available.

18. Employment Generation & Skill Development

10000 youth to be trained as Surya Mitra at UPNEDA training centres , U.P. Skill development Mission & National Institute of Solar Energy certified Training centres in the next 5 years.

Surya Mitra will provide their services for Installation, operation, repair and maintenance of Solar Systems (Solar Street Light, Solar Power Plant etc.).

Training will be provided to Surya Mitra as per the training Curriculum of U.P. Skill development Mission & National Institute of Solar Energy (NISE).

These Surya Mitra will be linked to Sewa Portal to ensure availability for citizen service.

19. Power to amend & interpret the policy

Government of UP will have power to amend/ review/relax/interpret any of the provisions under this policy as and when required