



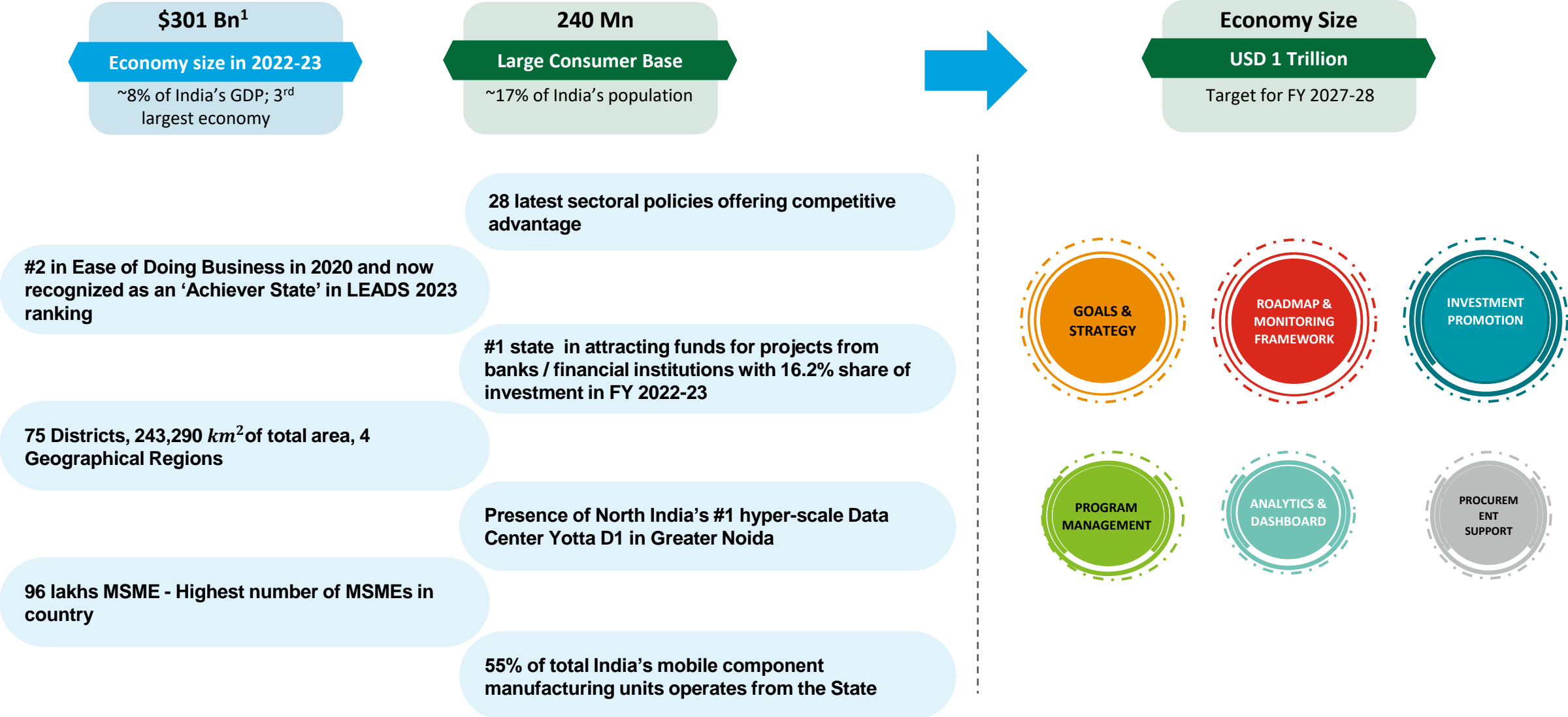
# Uttar Pradesh Solar Energy

A Sustainable Energy Future

April 2024

# Uttar Pradesh is targeting to achieve a GSDP of USD 1 Trillion by FY2028

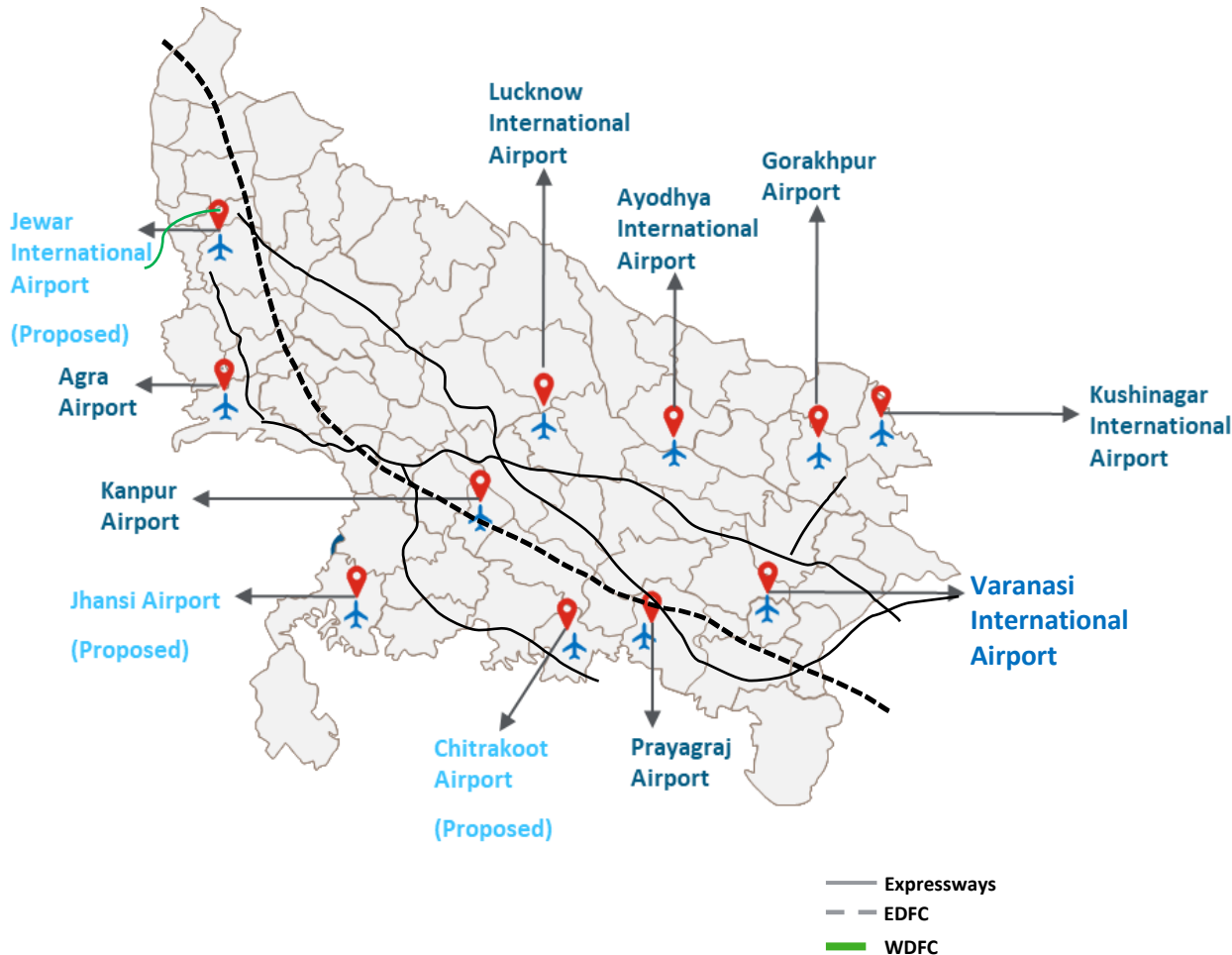
Deloitte has been appointed as advisor to assist in preparing a roadmap and in implementation of initiatives



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# Wholesome Infrastructure

UP is #1 State having best-in-class infrastructure with connectivity to industry and economic hubs in India, aiming to accelerate economic growth



Maximum number of airports with **#5 international airports**, and **#16 domestic airports**

**Rank # 1** in terms of network of Expressway in the country



Largest network of roads (> 400,000 kms)



Largest railway network (> 16,000 kms)



**Dedicated Freight Corridors** (EDFC with highest catchment area - ~57% & WDFC - ~10%) in the State



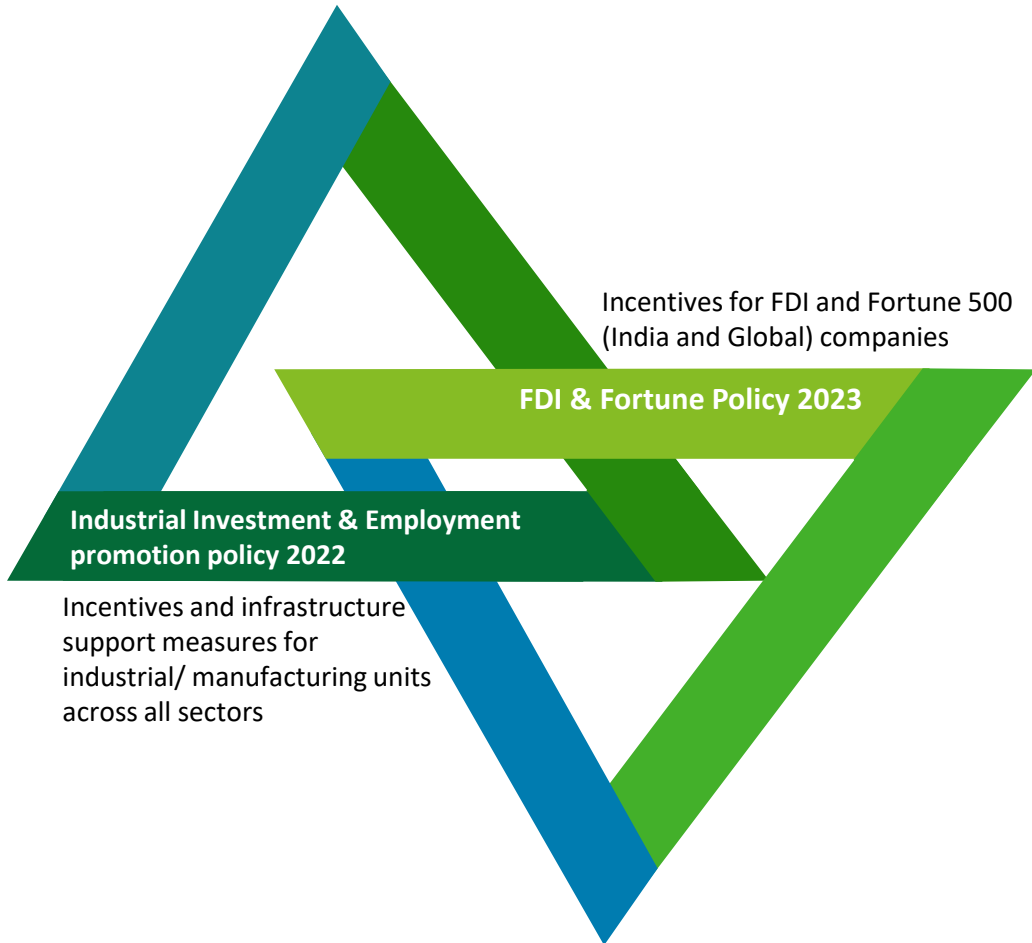
Vast network of **Metro Rail Systems** (Operational in 5 networks, 2 under construction). First **Rapid Rail Transport System** in India (Delhi to Meerut under construction)

1<sup>st</sup> to have **multi modal waterways terminal** on river ganga (5 freight villages planned)

# Uttar Pradesh – Overview of Policy Framework



## Key umbrella policies to foster investments and employment generation



## Sector specific policies – Option to avail incentives under umbrella policy or sector specific policy

- Dairy Development Policy
- EV Manufacturing Policy
- Pharmaceutical and Medical device Policy
- Food Processing Policy
- Electronics Manufacturing Policy
- Semiconductor Policy
- Start Up Policy
- Textile and Garmenting Policy
- Solar Policy
- Film Policy
- Data Center Policy
- Export Promotion Policy
- Warehousing and Logistics Policy
- Defence and Aerospace Policy
- Tourism Policy
- Bio Energy Policy
- Maintenance, Repair & Overhaul (MRO)
- Poultry Policy
- Green Hydrogen Policy

# Solar Energy Sector

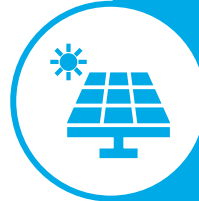
Uttar Pradesh offers \$6 Billion investment opportunity in solar energy sector to meet energy demand in India.

## Sector Overview



**23GW**

State Solar Potential



**2,632 MW**

Solar Power already installed capacity in the State



**2,000 MW**

Solar Capacity to be added under PM KUSUM Scheme as declared by the State

## Advantage UP

- Total Electricity Generation tied up capacity of 40,191 MW by FY 2028, out of which 30,003 MW is operational.
- Govt. Schemes viz. Development of Solar and Ultra Mega Solar Power Projects, Kusum Yojana, Village Electrification Program.
- As per Uttar Pradesh Solar Energy Policy 2022, A total of 14 GW of Utility Scale Solar Energy power projects are planned till FY 2028

## Initiatives Implemented

- Green Power Tariff: GoUP has decided to introduce Green Energy Tariff at 50% of this additional cost which is Rs. 0.54 per kWh.
- Net billing / Net feed-in has been introduced in UPERC (Rooftop Solar PV Grid Interactive System Gross/Net Metering)

## Key Players in UP



# Existing State Infrastructure

## Transmission Infrastructure



Cumulative of **154,878 MVA** of transformers operating at different voltage level are established to meet demand.



**INR 17,965 Cr.** of total CAPEX planned under Green Energy Corridor Phase II in UP.



Over **50,000 ckt.km** of Transmission lines & **624 sub-stations** established. **132/33kV** sub-stations & Transmission lines are highest amongst established ones.

## Solar Projects in state



Grid connected Rooftop solar plants installed with a capacity of **265 MW**




**150 MW** of distributed solar contracted by UPPCL under KUSUM C scheme.




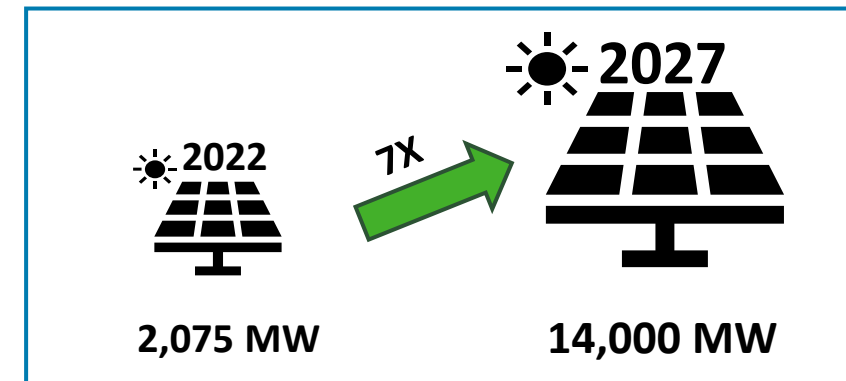
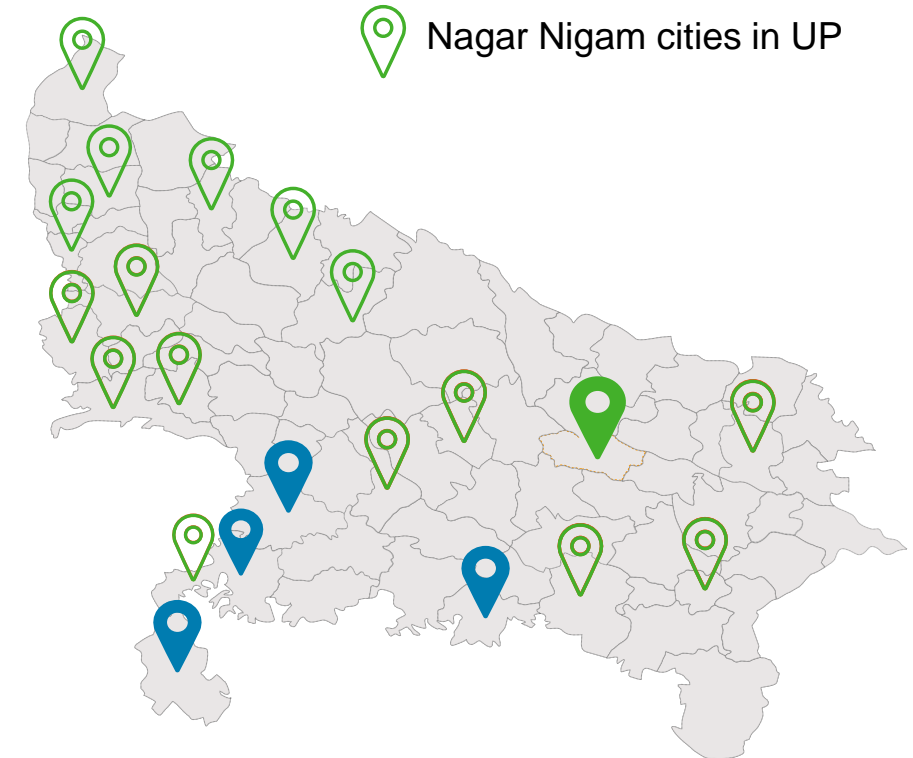
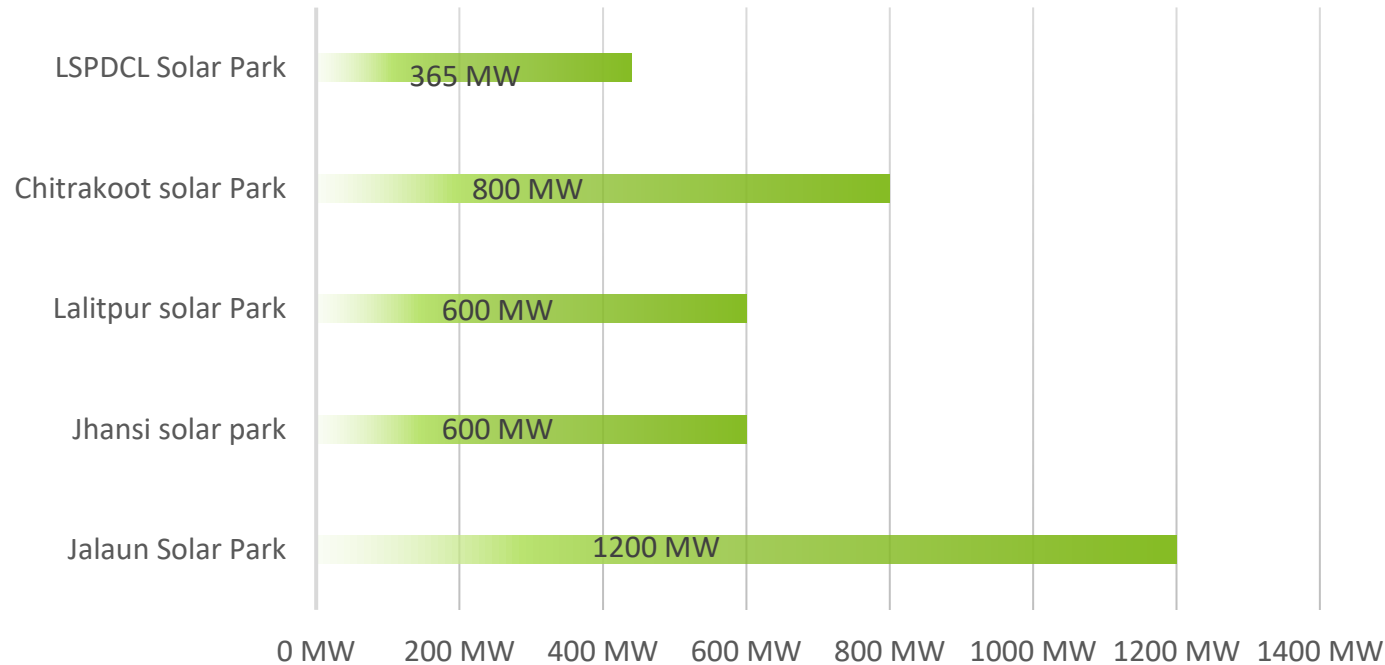
The GoI has approved solar parks with an aggregate capacity of **3,565 MW** in the Bundelkhand region in UP.

# Upcoming Solar Projects in Uttar Pradesh

Uttar Pradesh targets 7X growth in Utility Scale Solar Projects

 **Ayodhya** to be developed as model Solar City, further replication across 16 Municipal Corporations of UP state and Noida City.

 State has formed JVs with NHPC, THDCIL & SECI to develop **3565 MW** Parks in UP across Lalitpur, Jhansi, Jalaun and Chitarkoot.



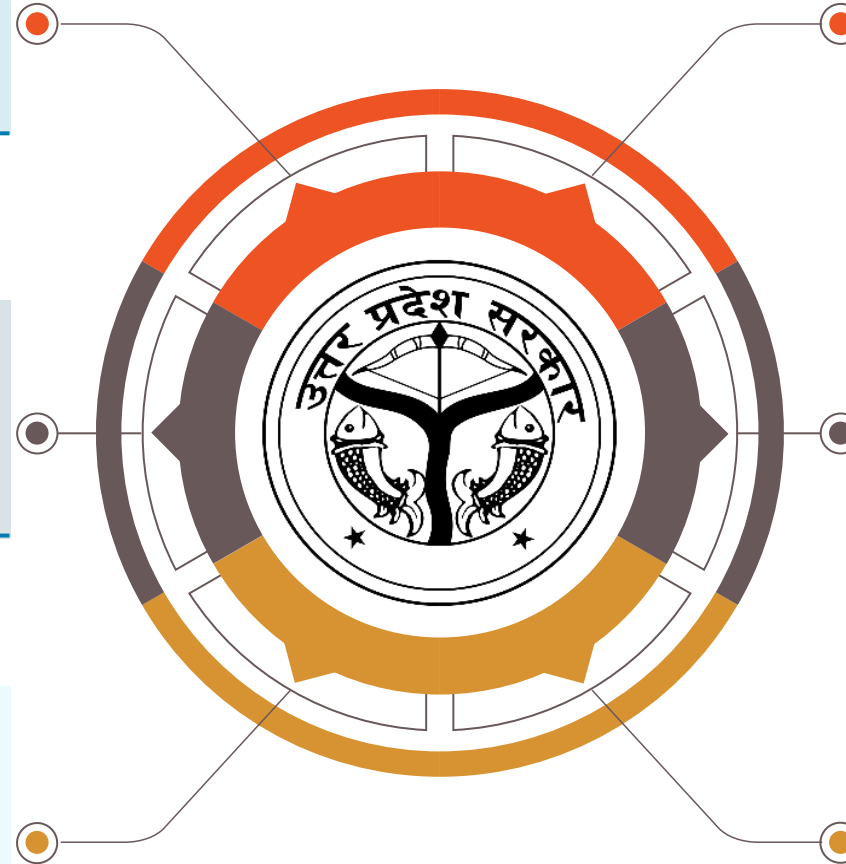
# Solar Energy Sector

Uttar Pradesh is implementing several key interventions to promote and enhance Solar energy sector in the state.

**Green Energy corridor** is being set up in Bundelkhand Region of the State to facilitate evacuation of power of **4,000 MW** capacity

**30,000 youth** to be trained as Surya Mitra at UPNEDA training centres in the next 5 years.

**Saurya Uttar Pradesh Yojna:** Subsidies for the installation of rooftop solar systems in the private residential sector.



**Solar Energy for Captive Consumption by Industries:** Dedicated solar parks with plug & play infrastructure to attract investment

**Solar Cities to accelerate energy transition:** Energy transition action plan for targeted 18 cities starting with Ayodhya

Uttar Pradesh **Solar Energy Policy 2022:** Aim to achieve a target of 22,000 MW of solar power projects by 2026-27.

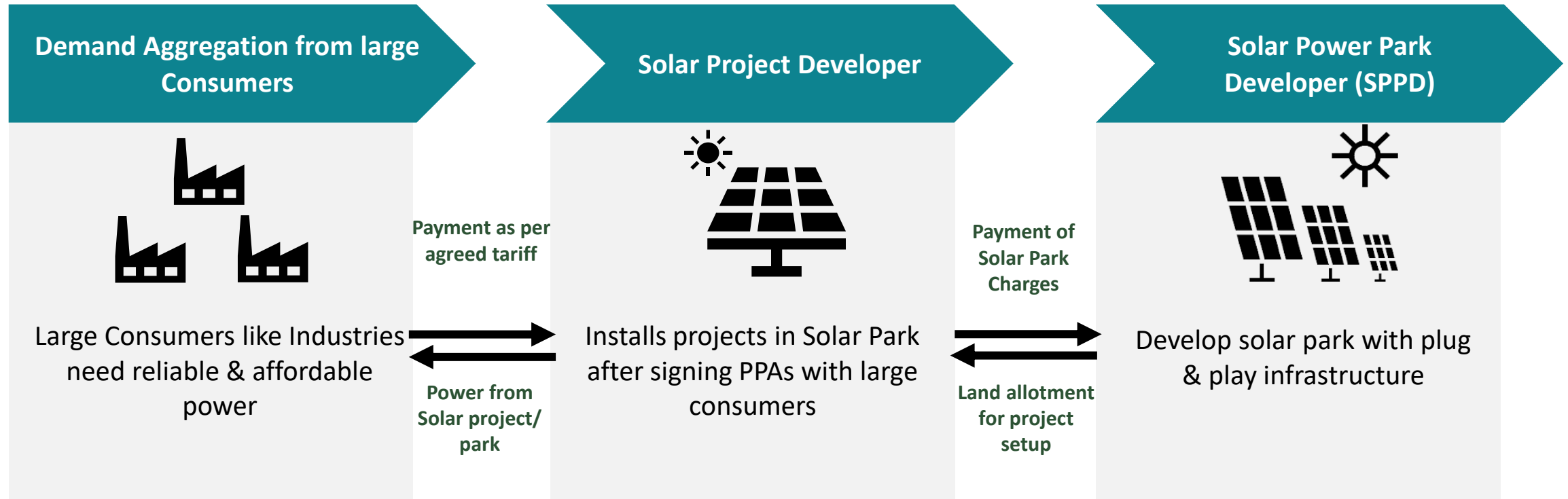


# Plug & Play Solar Parks promoting Captive Consumption by industries

Plug and play model for ease of establishing solar projects within state

## Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)

Nodal Agency



# Support from Government - Key Benefits of Solar Energy Policy 2022



Provide access to reliable and sustainable solar energy in UP



Reduce dependence on fossil fuels and achieve optimal energy mix



Encourage private sector Participation in solar energy generation and storage



Development of human resource for skill enhancement and generation of employment opportunities



Generate awareness regarding solar energy technology

## Key Policy Highlights

- Ayodhya to be developed as a Model Solar city. Further, 16 Municipal Corporations and Noida city to be developed as Solar cities.
- Government buildings, PSU buildings, schools, Govt. colleges, Technical institutions, etc. shall be covered with Solar Rooftop plants.
- UP will develop Solar Power Projects for captive consumption and sale of power to third parties other than UPPCL, Interstate and Intrastate.
- Development of Solar Parks.
- Solarization of Segregated Agriculture Feeders and Grid connected Private Tube wells.

## Special Incentives

	<b>Stamp Duty @100% exemption of stamp duty on the land used for setting up of Solar power plant / solar park</b>
	<b>Electricity Duty @100% exemption of Electricity Duty shall be provided for a maximum period of 10 years</b>
	State subsidy @INR 2.5 Cr/MW available to encourage utility scale solar systems with four hours battery storage
	Energy Banking up to 100% in every financial year up to 25 years
	Government Land available for lease up to 30 years.
	Encourage utility scale solar systems with 4 hours battery storage systems with state subsidy @ USD 0.3 Mn/MW available

## Land bank details

<b>Land Bank Details (Government and Private) (in Hectares)</b>		
<b>Location</b>	<b>Govt. Land</b>	<b>Private Land</b>
Jalaun	5,406	7,394
Jhansi	494	10,369
Chitrakoot	675	-
Lalitpur	5,577	-
<b>TOTAL</b>	<b>12,153</b>	<b>14,164</b>
<b>GRAND TOTAL</b>	<b>26,317 Hectares</b>	

Source: UPNEDA Published data (Latest data as on 20-Feb-2024)

<https://www.upneda.org.in/MediaGallery/Land%20Bank%20Details%20final-2.pdf>

# UP Green Hydrogen Policy 2024– Scope and key benefits

## 3 options for Industrial Undertakings to apply for Investment Promotion Subsidy ('IPS')

### Capital subsidy

**Capital subsidy:** 10% to 30% of \*ECI over 10 to 20 years (based on region and project category) +

**Employment booster:** Upto 4% of ECI +

**Export booster:** Upto 4% of ECI +

**Ecosystem booster (for local procurement):** Upto 4% of ECI

*Note: Overall incentives capped at INR 210 crores p.a.*

OR

### Net SGST reimbursement

Upto 100% of **Net SGST paid** over 6 to 16 years (based on region and project category)

*Note: Overall capped at 300% of ECI*

OR

### Production linked incentives (PLI)

30% of incentives disbursed under Gol's PLI scheme overall capped at 100% of ECI

## Eligibility criteria and other benefits

### Investment criteria:

- **Large** –> INR 50 crores but < INR 200 crores (4 years)
- **Mega** –> INR 200 crores but < INR 500 crores (5 years)
- **Super-Mega** -> INR 500 crores but < INR 3000 crores (7 years)
- **Ultra-Mega** - ≥INR 3000 crores (9 years)

### Exemptions and concessions:

- **Stamp duty:** 100% exemption
- **Electricity duty:** 100% for 10 years
- **Transmission & wheeling charges:** 100% rebate upto 10 years
- **Land on lease** at INR 15,000 p.a. per acre for 30 years

### Expansion project:

- **Investment criteria:** Minimum 25% increase in existing gross block
- Incentives at par with new unit
- Net SGST benefit only on incremental turnover

### Other conditions:

- Phase wise investment is allowed
- Eligible investment in land and building capped at 30% of total investment
- Minimum 80% of total investment should be made on or after policy effective date

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