

Note on Development of Chandigarh as Model Solar City

- Ministry of New & Renewable Energy (MNRE), Govt. of India. New Delhi has selected Chandigarh to be developed as Model Solar City.
- One of the Prerequisite of Development of Model Solar was to prepare a master plan for “Model Solar City’ for next 10 years.

The Energy and Resources Institute (TERI), New Delhi was appointed as consultant for the preparation of master plan. The Master plan for Model Solar City was finally got approved from MNRE, GOI **in Feb/2012**.

CHANDIGARH RENEWAL ENERGY SCIENCE & TECHNOLOGY PROMOTION SOCIETY (CREST) is the Nodal Agency for executing Solar & other RE Projects. It works under the aegis of Department of Science & Technology of UT Chandigarh which is the Nodal Deptt. for Renewable Energy.

As Chandigarh is already developed and very little vacant area left, so Rooftop Solar Power generation was the only possible option.

Roof top based Solar PV system:

Approved Master plan of ‘Chandigarh Solar’ City envisaged mid term target of 5 MWp Rooftop Solar (by 2017) and long term target of 10 MWp rooftop solar plants installation by 2022.

Chandigarh is well ahead in terms of achievement and has already installed & commissioned 7.782 MWp Grid tied Rooftop Solar plants as on 31st March, 2016.

In view of enhanced target of 100 GW to be achieved by 2022 as announced by Govt of India last year, **MNRE, GOI has set 50 MW as Solar PV target for Chandigarh Administration to be achieved by 2022** in tune with Revised Power Tariff policy of 2016.

Progress so far:

The Department of Science & Technology and Renewable Energy, UT Chandigarh has established a "Solar City Cell" in CREST and has developed capacity building through interactions/Seminars/Field visits of other Solar Plants in the country. CREST is preparing Detail Project Report (DPR) for Grid Interactive Power Plant in house and sending it to MNRE, GOI for sanction & then executing the works on various rooftop.

As on 31st march, 2016, Chandigarh has installed Rooftop Solar Plants of overall capacity of 7.782 MWp Rooftop SPV Plants on 161 Nos. of different sites in U.T. Chandigarh. Among Solar Cities, Chandigarh has taken a leading Position.

These 161 solar plants include followings:

- i. Installation & commissioning of Rooftop solar plants on **59 Nos. Govt Schools of UT, Chandigarh of overall capacity of 2290 kWp.** Chandigarh has 107 Govt Schools and it is planned to cover all Govt schools by solar power by 2017.
- ii. Installation & commissioning of Rooftop solar plants on all **11 Nos. Govt Colleges in Chandigarh of overall capacity of 2770 kWp.**
- iii. One of the largest rooftop Solar PV Plant of 1 MWp capacity installed & commissioned at Punjab Engineering College, Sector- 12, Chandigarh.
- iv. Installation of rooftop Solar plants on 28 Nos. Govt Residential Houses for Demonstration purposes.
- v. Installation of rooftop Solar Plants on 21 Nos. Private residence/institution/commercial sector of cumulative capacity of 211 kWp.

CREST have received following awards from the MNRE, Govt. of India on the First Foundation Day of Association of Renewable Energy Agencies of State (AREAS) on 27th August, 2015 at Bengaluru for its excellent performance in the field of Renewable Energy.

- 1. Second Prize for highest grid connected solar rooftop power capacity addition in the country.**
- 2. Second Prize for second highest cumulative grid connected renewable power capacity amongst the UTs in the country.**

3. Second Prize for second installation of renewable power applications in its office building at Chandigarh.

As on 30th April,2016, Chandigarh has already generated 10.4 MU of solar energy (in last 2.5 years) which is equivalent to reduction of 7176 metric ton of CO2 and in turn equivalent to planting of 777920 trees.

Chandigarh is generated 10.4 million units of solar electricity annually and most of these plants are under net metering scheme so that solar energy generated is first used in the local building and excess, if any is exported to grid.

Innovation in Procurement/ Installation of SPV Power Plants:

- i) Guaranteed Minimum Electricity Generation for each solar plant.
- ii) Make in India Initiative by having only Indian made Solar Panel with Minimum Efficiency of 15%.
- iii) Grid Interactive SPV System.
- iv) Third Party Inspection for solar plants installed to ensure its technical standards & quality.
- v) Provision for 10 years O&M in the DNIT itself to ensure good quality products being installed by EPC Contractor.

Future Strategies:

The Target of 50 MW Solar Power is proposed to be achieved in the following manner:

Sl. No.	Agency	Solar Power Target
1	UT Administration's establishments	30 MW
2	Central Govt Establishment's located in Chandigarh	10 MW
3	Private Sector/ Industries/Institutions/ Residential Houses/ RESCO Mode	10 MW

	Total	50 MW
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Initiatives taken in Promotion of Solar power in Private sectors:

- i. On the initiative of UT administration, Joint Electricity Regulatory Commission for Goa & UT has notified a new Solar Tariff & Net metering Regulation 2015 wherein solar Tariff has been kept **@ Rs 8.51 per unit (kWh) which is very attractive and is likely to** motivate Private residents to go for solar rooftop plants. The solar Tariff for 2016-17 is expected to be announced soon by JERC for UT & Goa.
- ii. CREST has empanelled 27 Nos. Solar Plant Installers/aggregators along with rates from whom any residents can install Solar plant and can avail 30% subsidy, as decided by MNRE, GOI.
- iii. Publicity through Newspaper, FM, advertisements in Movie Hall, Cable Operators, organisation of camps in residential sectors etc.
- iv. **A new online website/software platform** has been launched thereby providing ease of Business & transparency to all people of Chandigarh wherein they shall be able to obtain subsidy from CREST as well as all regulatory clearances from Electricity deptt. & electrical clearance from Electrical Inspector, within a fixed time through a single online platform for efficient installation of Solar Power Plants.
- v. **UT Chandigarh has recently notified the amended Building By- laws** to make Solar PV Installation mandatory on all buildings in U.T., Chandigarh above certain size of building, to promote the Chandigarh as a Model Solar City.