

NATIONAL REGISTRY OF SOLAR ROOFTOP PV (SRTPV) SYSTEMS

20th March 2025

National Registry of SRTPV (www.indiaderregistry.in)



Background

- India presently has over 16 GW of solar rooftop PV (SRTPV) systems connected to the DISCOM grids (33kV, 22kV, 11kV and LT lines) which the System Operators (SLDCs, RLDCs and NLDC) have no visibility. Hence, the daily generation (>50 GWh) from these distributed PV plants are not being considered in the generation forecasting, scheduling and dispatching activities. The PM Surya Ghar Yojana with the target of 10 million SRTPV will add another 30 GW of SRTPV in next 3 years which will create serious issues for the DISCOMs to manage the MV/LV grids
- To monitor the generation and performance of the grid connected SRTPV systems, it is very important to have a DISCOM-wise, Feeder-wise and DT-wise registry of SRTPV installations. The DISCOM-wise registry can be scaled up to State-wise and a to a National registry of all the SRTPV units connected to the grid so that the potential generation from these resources can be taken into consideration while scheduling and dispatching by the state load dispatch centers (SLDCs)
- ISGF has prepared the National SRTPV Registry which will help in effective management and integration of SRTPV systems
- This Registry Architecture is highly scalable to include millions (or billions) of all types of DERs connected to the grid

Present Status

- Developed a Framework and Designed the Rooftop PV Registry Architecture, Data Fields and APIs. This is designed DISCOM-wise, sub-station wise, Feeder-wise and DT-wise. The data of all DTs and SRTPV units including the inverter details being captured in the registry
- Historic data of existing SRTPV units in 2 DISCOMS (PGVCL- Rajkot and MPPKVVNL-Indore) are being be entered in the registry by ISGF in the first phase
- Development and hosting of the Registry on a cloud platform making this information publicly available while maintaining data anonymity

Project Outcomes



- State-of-the-Art SRTPV Registry for the Country: The development and implementation of a SRTPV Registry that serves as a comprehensive and up-to-date resource for tracking and managing solar rooftop installations throughout the country
- Scaling up of Solar Rooftop PV (SRTPV) Systems: Systematic planning and management of SRTPV installations, which facilitates the expansion and scaling up of rooftop PV systems across the nation
- **Performance Analysis**: Conduct performance analysis, including comparative assessments of daily, monthly, and yearly installations of SRTPV systems
- **Generation Forecasting for SRTPV**: The capability to forecast generation from SRTPV systems, facilitating integration into daily forecasting, scheduling, and dispatching operations managed by State Load Dispatch Centers (SLDCs) and Regional Load Dispatch Centers (RLDCs)
- Efficient Grid Infrastructure Management: Visibility of distributed SRTPV systems will help Discoms to manage the grid operations
- The Registry Architecture is scalable to be enhanced as a **National DER Registry** in the future

Launch of National Registry at DUM 2024



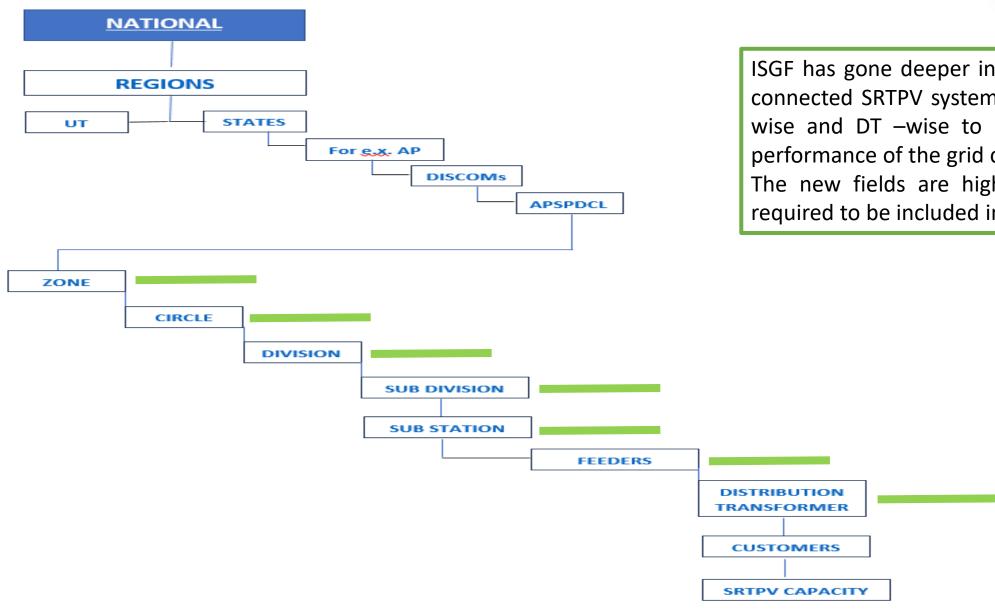
The Hon'ble Minister of Power launched the National Registry of Solar Rooftop PV (SRTPV) System prepared by ISGF on 14th November 2024 at the Distribution Utility Meet (DUM2024) in Lucknow. www.dumindia.in

To monitor the generation and performance of the grid connected SRTPV systems, it is very important to have a feeder-wise and DISCOM-wise registry of SRTPV installations. The DISCOM-wise registry can be scaled up to state-wise and a to a national registry of all the SRTPV units connected to the grid so that the potential generation from these resources can be taken into consideration while scheduling and dispatching by the state load dispatch centres (SLDCs).



What's New? - National Solar Rooftop Registry





ISGF has gone deeper in capturing the details of grid connected SRTPV systems to monitor SRTPVs Feederwise and DT —wise to monitor the generation and performance of the grid connected SRTPV systems. The new fields are highlighted in green which are required to be included in the Registry.

National Solar Registry Homepage



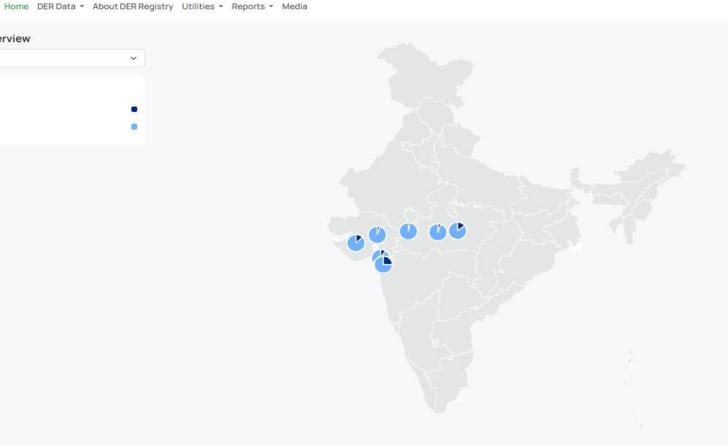


Welcome to India DER Registry

This is a Registry of all Distributed Energy Resources (DER) connected to the Grid.







All India Power Statistics	Login
Power Generation Capacity	4,52,694 MW
DER Statistics	
Solar	90,762 MW
Wind	47,362 MW
Other DER	16,403 MW
Distributed Solar	40,000 MW
Number of Prosumers	1,80,000
Total Capacity	1.54,527 MW



National DER Registry

Platform for insights into solar and DER resources linked to the Discom Grid. Discover installation data and renewable trends shaping the energy sector.

Powered by Ador . @ Copyrights 2024



Who are we

National Solar Registry Utilities Page





Welcome to India DER Registry

This is a Registry of all Distributed Energy Resources (DER) connected to the Grid.

Home DER Data - About DER Registry Utilities - Reports - Media



Con	tact	Detai	ls of	Discom	S

Show 10 entri	es						Sea	erch:		
SrNo ↑↓	State	↑↓ Disc	com Name	Ť↓	Contact		ŤĻ	Discom Lo	gin	Ť↓
1	ANDAMAN and NICOBAR ISLANDS	Elec	tricity Department, UT of Andaman & Nicobar		9436757589			<u>Login</u>		
2	ANDHRA PRADESH	And Limi	hra Pradesh Eastern Power Distribution Company ted		9436757589			Login		
3	ANDHRA PRADESH	And Limi	hra Pradesh Southern Power Distribution Compan ted	У	9436757589			Login		
4	ANDHRA PRADESH	And Limi	hra Pradesh Central Power Distribution Company ted		9436757589			<u>Login</u>		
5	ARUNACHAL PRADESH	Dep	artment of Power Arunachal Pradesh		9436757589			Login		
6	ASSAM	Ass	am Power Distribution Company Limited		9436757589			Login		
7	BIHAR	Nor	h Bihar Power Distribution Company Limited		9436757589			Login		
8	BIHAR	Sou	th Bihar Power Distribution Company Limited		9436757589			<u>Login</u>		
9	CHANDIGARH	Cha	ndigarh Electricity Department		9436757589			Login		
10	CHHATTISGARH	Chh	attisgarh State Power Distribution Company Limite	ed	9436757589			Login		
Showing 1 to 10 o	f 75 entries					Previous 1	2 3	4 5	8	Next

National Solar Registry DISCOM Login Page





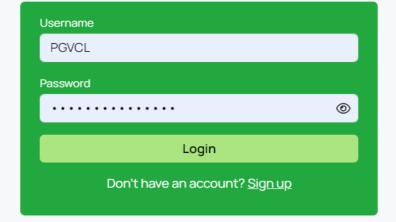
Welcome to India DER Registry

This is a Registry of all Distributed Energy Resources (DER) connected to the Grid.

Home About Contact



Discom Login







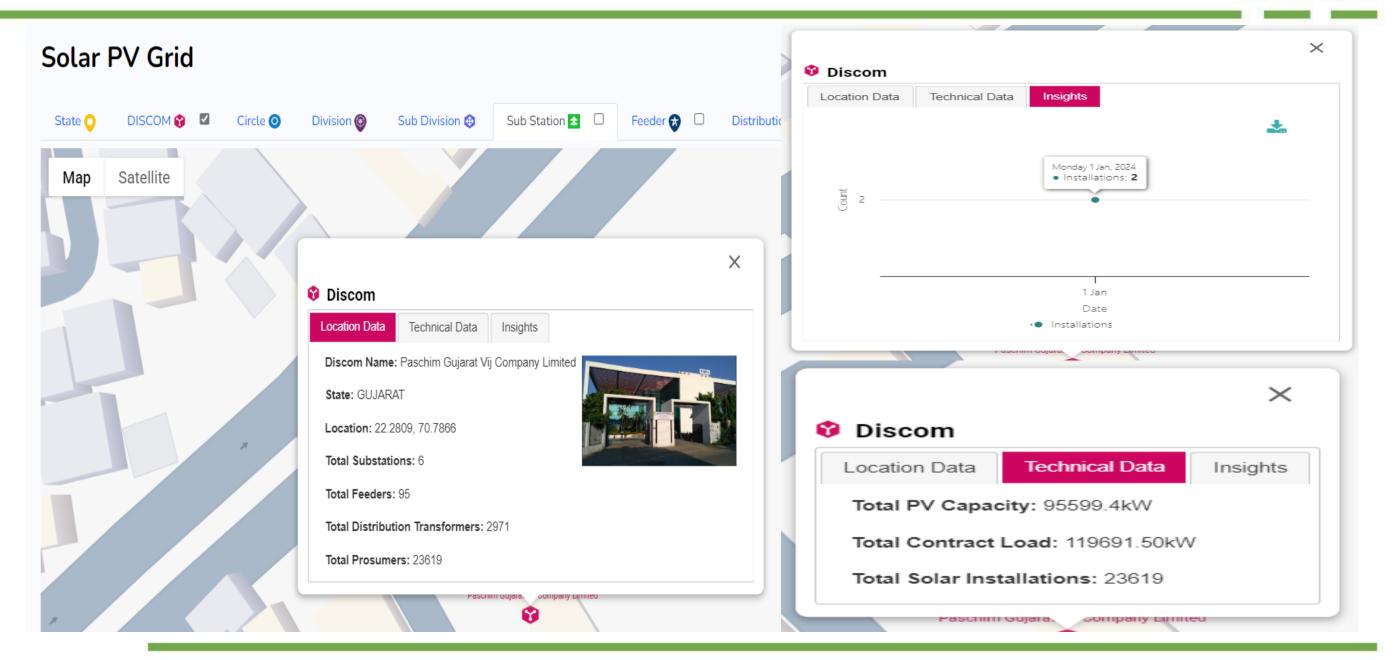
National Solar Registry DISCOM Maps Page





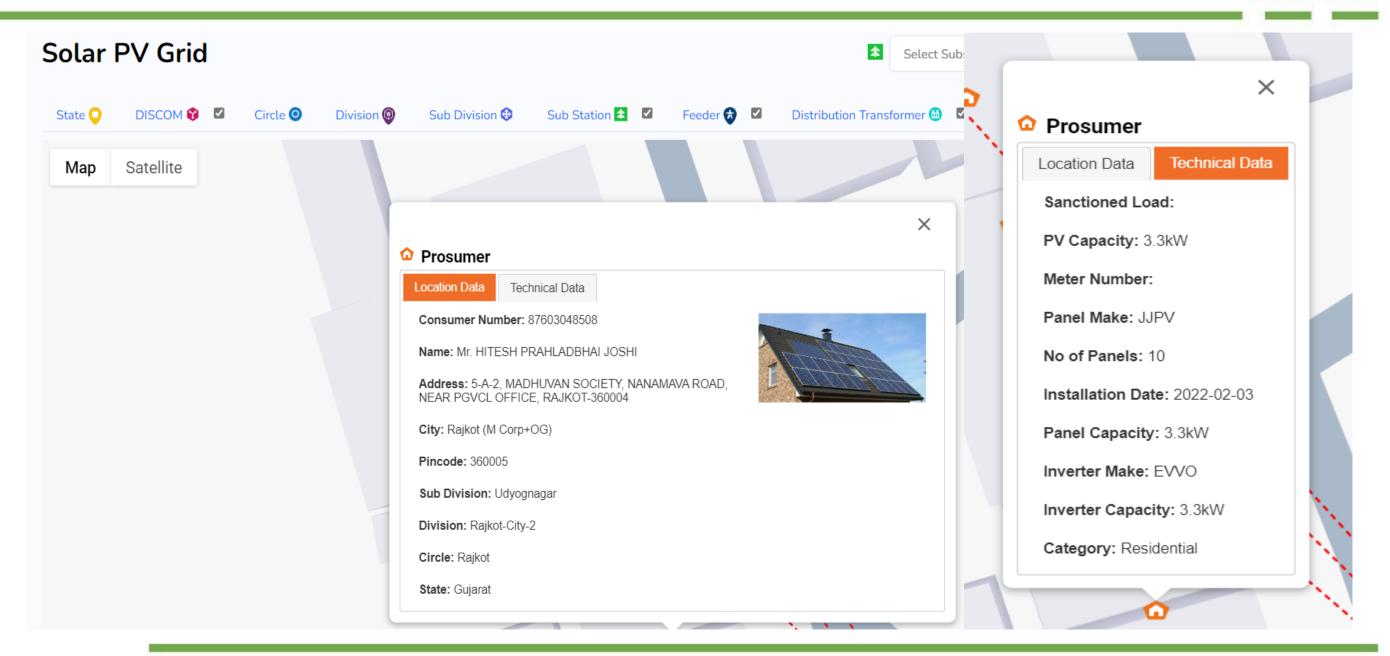
National Solar Registry Single DISCOM Details





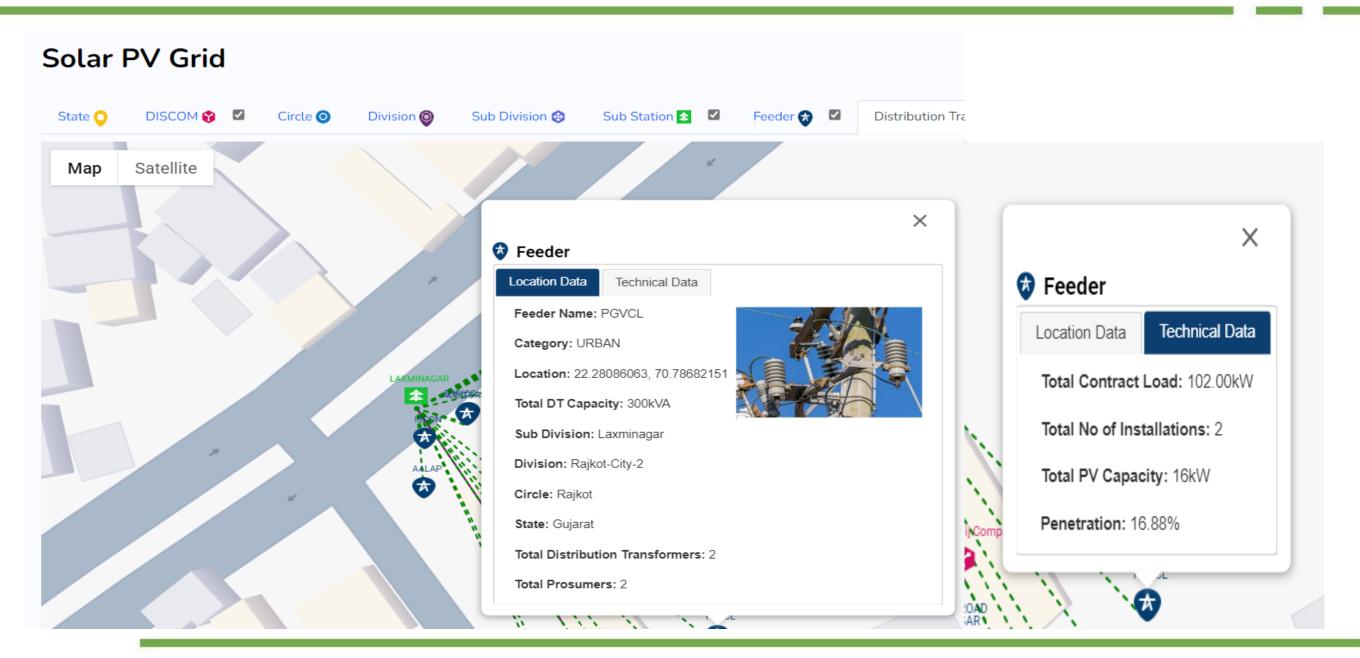
National Solar Registry Single Prosumer Details





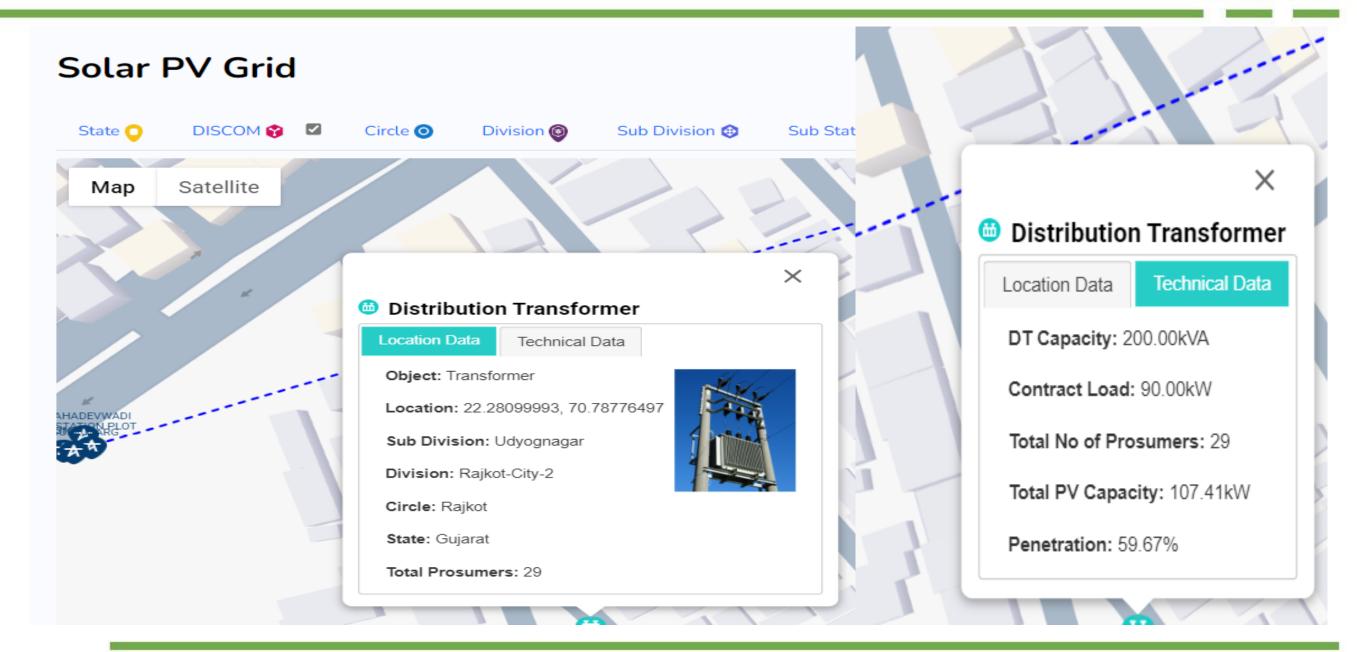
National Solar Registry Single Feeder Details





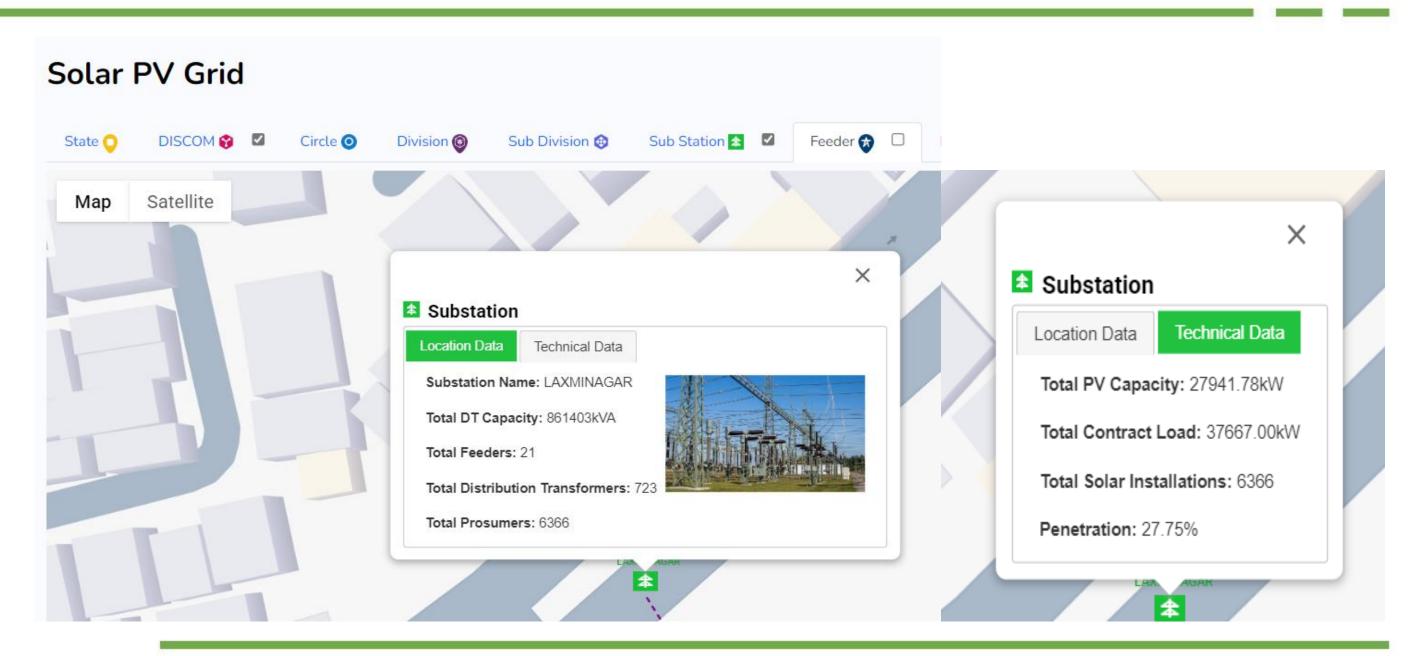
National Solar Registry Single Distribution Feeder Details





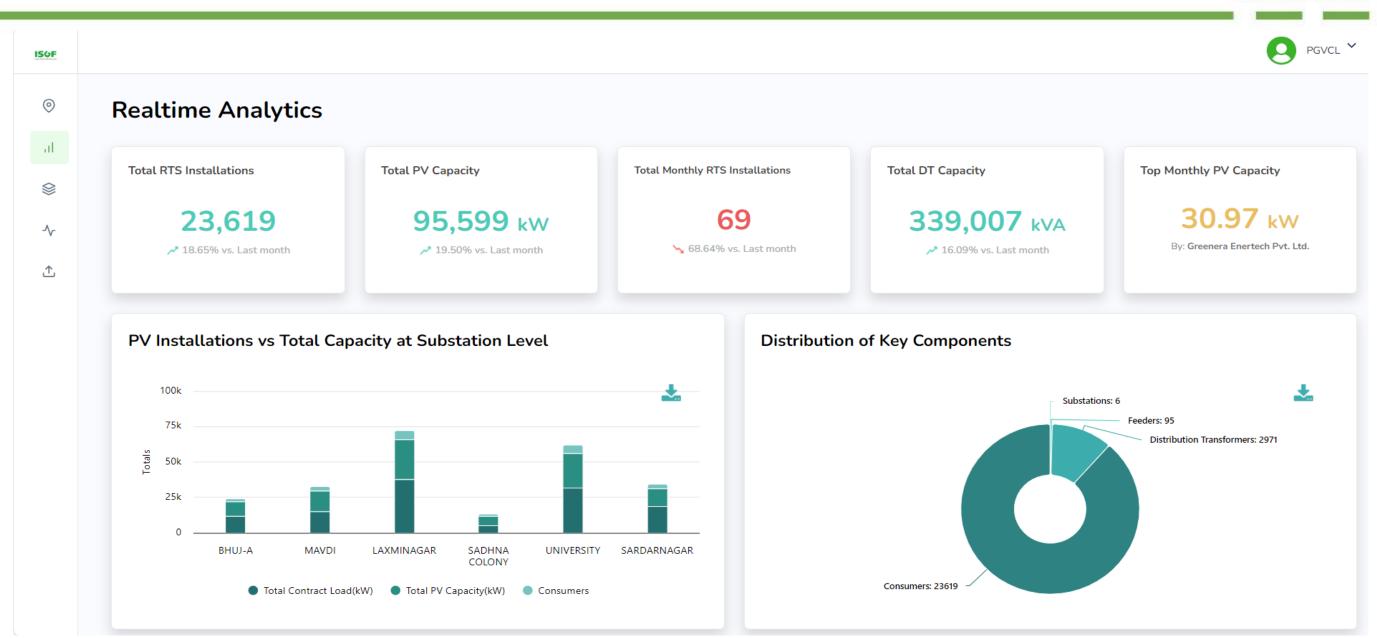
National Solar Registry Single Substation Details





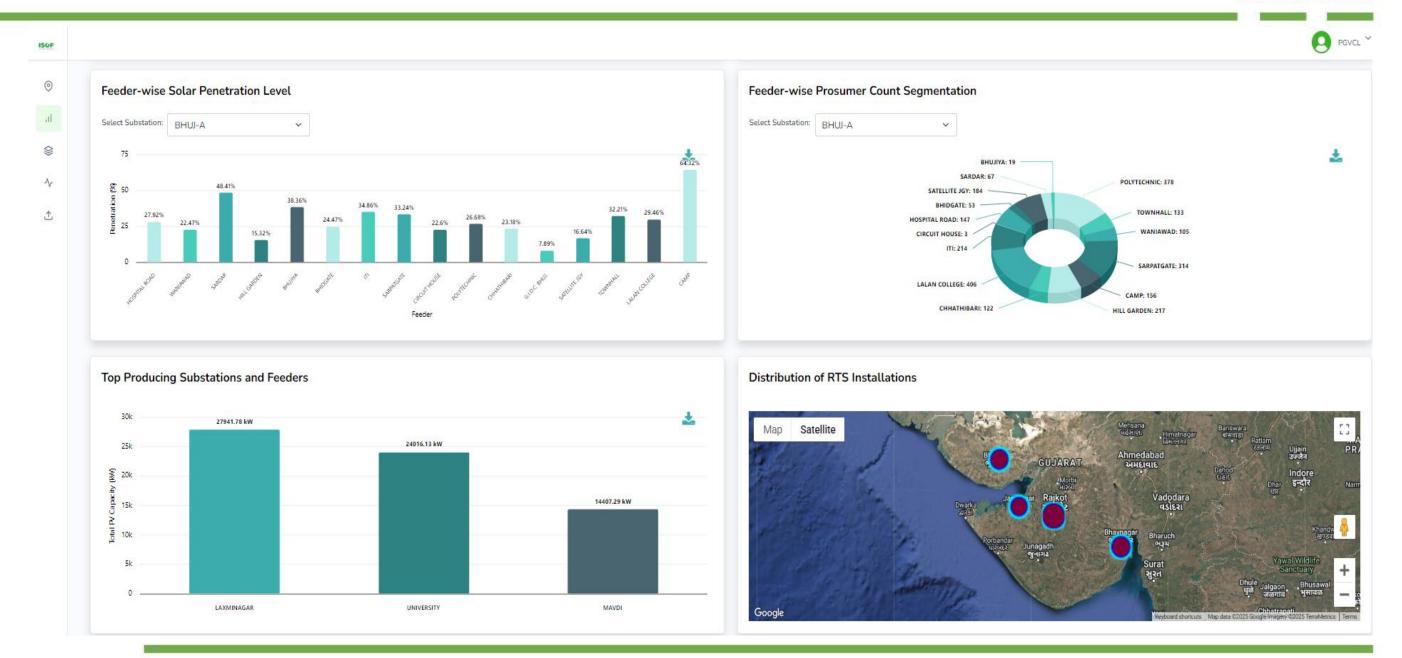
National Solar Registry DISCOM Realtime Analytics Page





National Solar Registry DISCOM Realtime Analytics Page





National Solar Registry DISCOM Realtime Analytics Page





National Solar Registry Dashboard Overview Mapping Substation to Feeder to Distribution Transformer





National Solar Registry Dashboard Overview Mapping Substation to Feeder to Distribution Transformer to Prosumer





Important Meetings Held



10th January 2024



Roundtable Consultation Meeting on The Design of Framework for National Registry of Solar Rooftops/DERs

1st and 2nd April 2024



Meeting held with PGVCL MD and Senior officials for introduction of the project and seek support

Important Meetings



24th June 2024



Meeting held with MPPKVVCL MD and Senior officials for for introduction of the project and seek support

25th June 2024



MOU with PGVCL



Thank you

For discussions/suggestions/queries email:

reji@rejikumar.com

@rejipillai
www.indiasmartgrid.org
www.isgw.in

India Smart Grid Forum

CBIP Building, Malcha Marg, Chanakyapuri, Delhi-110021 Website: www.indiasmartgrid.org

8 8