Implemented by

PM-KUSUM in Madhya Pradesh

Ready for Scale, Ready for the Grid

Madhya Pradesh is targeting about **6 GW of decentralized solar** under PM-KUSUM. The real challenge isn't just adding capacity- it's ensuring the **grid can handle it reliably, every hour of the day.**

Under the Indo-German Energy Programme, GIZ India- on behalf of BMZ is supporting MNRE and MPUVNL with a **practical, system-level study on solar grid integration**.

What have been accomplished?

- Snapshot load flow studies (Dec, May, Aug)
- 24-hour time-series load flow simulations to reflect real grid conditions
- Reactive power (Q) analysis for voltage management
- Harmonic assessment as per IEEE standards

Where was this carried out?

6 EHV substations across three **DISCOMs in MP (Central, East and West)**, with technical study done by **PRDC**, focusing on actual network behaviour.

The report launch was held in the presence of...

Mr. Rakesh Shukla, Hon'ble NRED Minister

Mr. Manu Srivastava, ACS, NRED

Mr. Amanbir Singh Bains, MD, MPUVNL

What does this mean in practice?

- ✔ Inverters can actively support voltage, if Q capability is utilized properly
- ✔ Time-series analysis should become standard for future planning for hosting capacity of the network for KUSUM generation
- ✔ Scope to **optimize or defer infrastructure investments** at specific locations
- ✔ Need for **continuous harmonic monitoring** as solar capacity increases

A focused collaboration between
Government of Madhya Pradesh, MPUVNL, GIZ
and partners- turning solar targets into implementable solutions.








Teams

- **GIZ** - Bernhard Kreuzberg, Rajeev Kumar, Johanna Beck, Komal Bai
- **PRDC** - Dr. Chandra Sekhar Reddy Atla, Achyut Khare, Modelling Team