

Union Minister Shri Pralhad Joshi Visits ISA Pavilion at India AI Impact Summit

Energy Transition Must Be Matched by Grid Transition: Shri Pralhad Joshi

ISA Pavilion Highlights AI-Powered Renewable Energy Integration

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Union Minister of New and Renewable Energy, Pralhad Joshi, visited the Pavilion of the International Solar Alliance (ISA) at the India AI Impact Summit held at Bharat Mandapam, Hall No. 14, and reviewed a series of technology-led innovations advancing the Global Mission on AI for Energy.



The Pavilion highlighted practical, scalable models that demonstrate how Artificial Intelligence (AI), digital platforms and geospatial tools can modernise utilities, accelerate renewable energy integration, and strengthen energy resilience across ISA Member Countries.

The India AI Impact Summit spotlighted the Global Mission on AI for Energy as a platform for driving convergence between solar deployment and digital intelligence, enabling real-time optimisation and smarter grid management.

From Energy Transition to Grid Transition

As distributed renewables expand rapidly, the focus is shifting from merely adding capacity to integrating millions of decentralised assets into a stable, reliable grid. This requires stronger transmission infrastructure, modernised distribution networks, and real-time monitoring systems.



The Minister noted that the energy transition must be matched by a grid transition, building flexible, digital, intelligent grids powered by data-driven forecasting and real-time optimisation.

States such as Delhi, Rajasthan, and Andhra Pradesh are advancing digitisation, smart metering, and digital control systems, reducing losses and enabling higher renewable penetration. These experiences offer valuable lessons for developing nations seeking to modernise their power sectors.

India's Solar Journey: Vision at Scale

India's solar capacity has grown from less than 3 GW in 2014 to over 141 GW today, positioning the country among the fastest-growing solar markets globally. Solar energy has become central to India's development strategy and energy security framework.

A defining achievement of this journey has been the democratisation of solar energy. Through PM-KUSUM, farmers are becoming energy producers, with lakhs of solar pumps reducing diesel dependence and ensuring reliable daytime power supply. Feeder-level solarisation is improving supply quality while lowering distribution losses.

Similarly, PM Surya Ghar: Muft Bijli Yojana, targeting one crore households, is poised to become the world's largest rooftop solar programme, transforming consumers into prosumers and strengthening distributed energy systems nationwide.

AI for a Resilient and Inclusive Energy Future

With 125 Member and Signatory Countries, the International Solar Alliance provides a global platform to scale practical and replicable solutions. Through the Global Mission on AI for Energy, ISA is fostering the fusion of solar energy and digital intelligence.

Artificial Intelligence can significantly enhance load forecasting, predictive maintenance, grid optimisation, and renewable integration, improving efficiency, affordability, and resilience.

India's solar success, the Minister emphasised, is not merely about megawatts installed but about empowering citizens, supporting farmers, strengthening utilities, and building resilient infrastructure.

Among the key innovations presented were:

Digital Consumer Interface – One Solar App:

Developed by BSES Rajdhani Power Limited, the unified “One Solar App” streamlines rooftop solar adoption through digital registration, transparent net-metering processes, performance tracking, and integrated service delivery. The platform enhances consumer convenience while improving operational transparency for distribution utilities.

Digital Twin Solutions for DISCOMs:

Indian startups are deploying digital twins—virtual replicas of electricity distribution networks—to enable real-time simulation, renewable integration modelling, predictive maintenance, and scenario-based planning. These solutions improve operational efficiency while reducing technical losses and investment risks.

GIS-Based Distribution Modernisation:

Geospatial mapping initiatives, including those undertaken by Andhra Pradesh Eastern Power Distribution Company Limited, provide asset-level visibility and infrastructure optimisation. GIS-enabled planning strengthens outage management, capital allocation, and preparedness for higher renewable penetration.

The convergence of solar, storage, smart grids, and AI will define the future global energy system, and India stands ready to partner with ISA Member Countries to advance a cleaner, smarter, and more inclusive energy future.

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