CASE STUDY

EMSIGNER · ENERGY & UTILITIES · INDIA

A State Power Distribution Utility in India Automates Power Purchase Agreements with eMudhra emSigner

SECTOR	REGION	SOLUTION
Energy & utilities	India	emSigner

CLIENT OVERVIEW

A State Power Distribution Utility in India is responsible for electricity distribution across multiple districts in a large southern state, managing power supply, billing, infrastructure maintenance, and the facilitation of renewable energy connections for residential and commercial consumers. As the utility expanded its rooftop solar programme — enabling residential producers to feed surplus power back into the grid under a national government scheme — it faced a rapidly growing volume of Power Purchase Agreements (PPAs) that required a secure, compliant, and efficient execution process at scale.

THE CHALLENGE

The traditional PPA signing process was entirely manual, time-consuming, and dependent on multiple sequential approvals. Consumers were required to visit the utility's offices multiple times — for payment of required fees, submission of documents, and physical signature of the agreement — before a PPA could be finalised. This multi-visit requirement created significant friction in the consumer experience and acted as a direct barrier to adoption of the rooftop solar programme, slowing the utility's ability to onboard residential producers at scale.

The absence of integrated payment processing and e-stamping capabilities meant the agreement execution process was fragmented across multiple offline steps. Each step introduced delays, administrative overhead, and the risk of errors that required further follow-up visits. The utility required a fully integrated digital solution that could handle Aadhaar-based eSign, e-stamping, and payment collection within a single end-to-end workflow — accessible remotely via the utility's existing consumer portal, with no requirement for physical office visits.

> *"Our consumers needed to visit our offices multiple times just to sign a solar energy agreement — for payments, for stamping, for signatures. That friction was slowing down the entire programme. We needed a solution that made the entire process seamless, digital, and completable from home, in minutes rather than weeks."*
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> **Head of Renewable Energy Operations**

THE SOLUTION

eMudhra deployed an emSigner-based e-stamping and digital agreement solution integrated directly into the utility's consumer portal via real-time API. The solution integrates e-stamping with a national e-stamping platform and a payment gateway for fee collection, enabling consumers to complete the entire PPA process remotely in a single, uninterrupted workflow.

The consumer journey operates as follows: the consumer submits a PPA application through the utility's portal and receives a unique reference number; agreement details are automatically fetched from the utility's database; the consumer reviews and digitally signs the agreement using Aadhaar-based eSign, DSC, or biometric authentication; payment is completed via the integrated payment gateway; e-stamping is executed through the national e-stamping platform; and the utility official receives an email notification to review, validate, and digitally sign the agreement in emSigner. The signed document is then stored in DocStore and shared with both parties, completing the process with a full, verifiable audit trail.

The solution required no additional infrastructure investment, incurred zero ongoing maintenance costs, and was deployed via a quick API integration with minimal downtime. The scalable, cloud-based architecture supports thousands of PPA transactions per month and is designed for expansion across other distribution utilities and electricity-related agreement types.

RESULTS

The deployment of emSigner reduced PPA processing time by 90%, eliminated all physical office visits from the consumer journey, and delivered a 40% reduction in administrative overhead — enabling the utility to onboard rooftop solar consumers at significantly greater speed and scale.

METRIC	BEFORE	AFTER
PPA Processing Time	Weeks (manual, multi-visit)	90% reduction; completed in minutes
Consumer Office Visits Required	Multiple visits for payment, stamping, signing	Zero — fully remote digital process
Administrative Overhead	High; manual verification at each step	40% cost reduction in administrative overhead
Monthly Agreement Volume	Limited by manual processing capacity	Thousands of agreements automated monthly
Payment Integration	Manual; separate offline process	Integrated payment gateway; single seamless workflow
Document Compliance	Manual stamping; compliance risk	100% paperless; MNRE and national regulatory guidelines compliant

About eMudhra. eMudhra is a globally trusted provider of digital trust services, offering eSignatures, PKI, Certificate Lifecycle Management, Multi-Factor Authentication and Identity & Access Management solutions. Licensed by the Controller of Certifying Authorities (CCA), India, eMudhra serves 1,000+ enterprises across 40+ countries, helping organisations build secure, compliant and paperless digital ecosystems.

Customer name withheld for confidentiality.