INDIA ENERGY STACK

Smart Meter Data Exchange

Meter data that moves in days, not months.

A standard, audited way for smart-meter data to move between the AMISP that operates the meters, the DISCOM that owns the data, and any authorised third party. Agreed once. Used everywhere. A receipt for every exchange.

Think of how ATMs work across banks. One shared standard lets any card work in any machine, with no bank-by-bank tie-ups. The Smart Meter Data Exchange does the same for meter data: one published interface instead of a bespoke integration per pair.

01 THE PROBLEM TODAY

A new integration for every pair

Every pair builds from scratch.

Today each DISCOM and AMISP pair negotiates its own integration: a one-time historical dump, then files over a shared folder, or a project-specific API. Each pairing takes weeks to months of work, and the next partner starts all over again.

No record of who got what.

Meter data moves over FTP folders and spreadsheets with no standard trail of consent, scope or duration. When the data protection law asks who received what, and under whose authority, there is no clean answer.

During the pilot, a DISCOM and its AMISP completed an IES-compliant meter-data exchange without a bilateral integration agreement. What used to need weeks to months of paired engineering worked in days, and every exchange left a signed receipt.

02 SCOPE

What it is, and what it covers

One standard exchange. It covers four things, and only these four:

- how a data request is discovered and agreed between the two parties;
- how consent, scope and duration are recorded;
- the shape of the meter data on the wire, covering every cadence: customer details, 15-minute readings, daily and monthly totals, billing details, live snapshots, events and alarms;
- the receipts and audit trail that prove what was exchanged.

What it deliberately leaves out

- × Meters keep speaking their existing Indian standards. Nothing at the meter changes.
- × Head-end and meter-data systems stay exactly as they are. IES sits only at the edge, where data leaves for an authorised recipient.
- × A consumer sharing their own readings is a separate note: the Consumer Meter Digest.

03 HOW IT WORKS

Four steps, start to finish

1

Publish

The DISCOM or AMISP lists the datasets it can share in a catalogue: what data, what area, what cadence.

2

Agree

Before any exchange, both sides look each other up, confirm the other is genuine, and record scope and duration.

3

Exchange

Data flows in the standard format, small requests inline and bulk data over the parties' chosen channel.

4

Receipt

A signed receipt records who received what, under whose authorisation, and for how long.

FOUR TERMS, IN PLAIN WORDS

AMISP ·the company that installs and operates smart meters on behalf of a DISCOM.

MDM ·the utility's system of record for meter readings.

Schema ·the agreed field names and structure that both systems understand.

Audit trail ·the signed record of every exchange, kept by both sides.

04 THE RAILS UNDERNEATH

What IES provides

A verified identity for every party and meter.
The DISCOM, the AMISP, each meter, transformer and feeder gets a checkable digital identity. Existing serial numbers and codes are reused, not replaced.

One standard data shape.
A provider writes its data mapping once and it works across every DISCOM that has adopted IES. No renegotiation per pair.

A contract before every exchange.
Each exchange starts with a recorded agreement: what data, for what purpose, for how long.

Signed receipts.
Every exchange leaves a tamper-proof record, enough for data-protection accountability and dispute resolution.

05 VALUE UNLOCKED

What each stakeholder gains, and how

DISCOMs

Value: one published interface replaces pair-by-pair integration. Weeks to months of bilateral work become days, and authorisations are recorded, scoped and time-bound.

How: a small adapter at the edge of the MDM connects once. Internal systems are not re-engineered.

AMISPs & technology providers

Value: integrate once and the same pattern works across DISCOMs. New contracts stop reopening the data-format question.

How: they build to the published specification once, and reuse it everywhere.

Regulators & analysts

Value: telemetry arrives in one consistent format with a verifiable trail of consent and scope. Comparable analysis across DISCOMs becomes possible.

How: every exchange follows the same public schema and leaves the same receipt.

Consumers

Value: when consented third parties such as banks and energy apps can read meter data on standard rails, services like green loans, automated solar quotes and demand-shift offers become viable.

How: consent is recorded, scoped and time-bound on every exchange.

WHERE IT STANDS TODAY

Live in pilot. IES-compliant meter-data exchanges have been completed between DISCOMs and AMISPs without a bilateral integration agreement.

APEPDCL · Andhra Pradesh | DGVCL · Gujarat | Tata Power · Mumbai | PVVNL · Uttar Pradesh

BEFORE IES
Every DISCOM-AMISP pair built its own integration. Weeks to months of work, with no standard record of what was shared.

WITH IES
One published interface. New partners connect in days, and every exchange leaves a signed receipt.

WHAT IES DOES NOT DO

IES does not store or move any meter data itself. Data flows directly between the parties.

IES does not replace any system. Meters, head-ends and meter-data systems keep working as they are.

Each party adds one small piece of connecting software, called an adapter. Nothing else changes.

Read the full specification india-energy-stack.gitbook.io/docs → Use Cases → Smart Meter Data Exchange