# Presentation by

ALL INDIA DISCOMS ASSOCIATION

at

DISTRIBUTION UTILITY MEET, 2025

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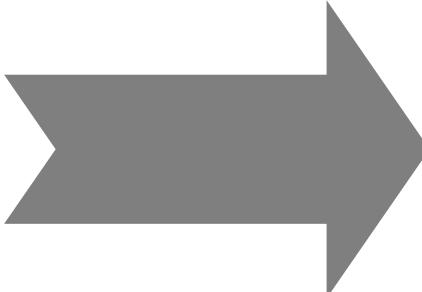
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AIDA – Our Mission

Discoms which are

Leading to

Viable **Capable** **Future Ready**	→	**Affordability** **Reliability** **Sustainability**

AIDA – Who We Are?

✓ **All India Discoms Association (AIDA) is a not for profit collaboration platform representing a wide spectrum of electricity distribution entities of India.**

✓ **Our members are state government owned Distribution Companies, private sector Discoms, Electricity Departments of Union Territories and Franchisees.**

✓ **As on date, 51 DISCOMs are AIDA Members**

Office Address:
CBIP Building, Malcha Marg,
Chanakyapuri, New Delhi – 11002

Launch Date : 14th November 2024

Inaugurated by Hon'ble Minister of Power,

at Lucknow

KEY PERSONNEL

President	General Secretary	Director General
Shri Lokesh Chandra	**Ashish Kumar Goel**	**Alok Kumar**
President All India Discoms Association (AIDA) Chairman & Managing Director Maharashtra State Electricity Distribution Company Limited (MSEDCL)	General Secretary All India Discoms Association (AIDA) Chairman Uttar Pradesh Power Corporation Limited(UPPCL)	Director General All India Discoms Association (AIDA) Former Secretary (Power), Ministry of Power, Govt. of India

AIDA - What we focus on

1. Policy and Regulator Advocacy to represent viewpoint of Discoms to assist better decision making - Based on Analysis and Research

2. Collaboration among Discoms - Experience Sharing, Best Practices, Case studies, Working Groups

3. Capacity Building of Discoms' Human Resource - Focused training courses, international and national study visits

4. Common Specifications and Technical Standards and national rate contracts- Cost effective and better quality materials and services
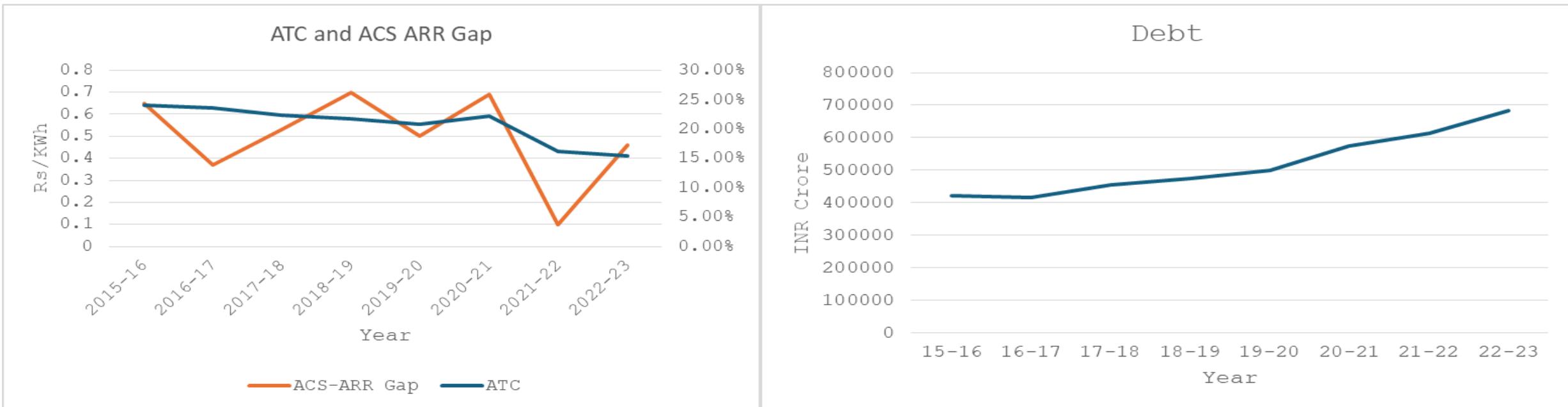
Centre of Excellence – Resource & Knowledge Centre as a single platform for all matters related to existing or emerging areas for building a sustainable and future ready Discom

Viability of Discoms

Key concerns

Losses are showing a declining trend but ACS- ARR gap has been generally at the same level and indebtedness of Discoms has been continuously rising.

Source : PFC

Key concerns

1. Tariffs not being cost reflective (AT&C losses are coming down) - irrational disallowances, delayed tariff orders, underfunded O&M costs, non- revision of cost data book, inadequate fuel cost adjustment

2. High financing cost (˜3% higher than CPSUs)

3. Poor recovery from rural/poor and agricultural consumers – 100% collection efficiency assumption is irrational

4. SERCs lack development orientation, indulging in populism

5. Interest burden due to long delays in disposal of cases with huge financial impact on discoms

6. Complicated tariff structure – liable to be misused

7. Open access provisions being used for cream skimming

8. RCO Compliance in absence of RE availability

9. Cost of RE integration

Interventions for restoring viability (1/2)

1. Enforce compliance with Tariff Policy and Rules by SERCs - AIDA has undertaken a study on analysis of tariff orders issued by SERCs.

2. New statutory framework required for tariff rationalization - timely and WPI linked revision for fixed costs (other than covered by FPPCA), simplified and rationalized slabs, normative approach as followed by CERC, past adjustments in true up be not allowed to deny uncontrollable present costs

3. Steps required to reduce the financing cost - suitable credit enhancement scheme linked to progress on reforms, facilitate conversion of high cost debt, remove prepayment penalties.

4. Collection of DISCOM dues from Panchayat to be deducted centrally from Finance Commission grants.

5. Incentivize efficiency improvement through early completion of loss reduction works – no new conditionality on release of RDSS funds.

6. Incentivize the state governments to undertake the reform of utilities for improving the operational efficiencies and governance

7. Develop a National policy for:

    1. Improvements in recovery from rural areas through pre-paid mode, and a regulatory trajectory for improving collection efficiency in rural areas (already recognised in the Rules)
    2. Centralised payment of electricity dues by state government for electricity supplied to essential services like water/sewerage, street lighting, hospitals
    3. Normative O&M norms as recommended by CEA

Capacity Building of Discoms

Areas identified for sustained capacity building

1. Demand forecasting in the present trend of increasing unpredictability of weather/seasons, new loads like electric mobility and data centres, and projected increase in share of DERs

2. Capacity expansion planning with increasing uncertainties in generation from VRE and demand uncertainties

3. Distribution network planning and operations with growing penetration of rooftop solar and behind the meter storage installations

4. New technologies in the areas of smart grid – Artificial Intelligence (AI), Data Analytics and Cyber Security.

5. Managerial skills for creating a talent pipeline for leadership positions

Interventions for capacity building

1. Design of training courses - AIDA is supporting in identification of training needs

2. Increased Government funding for training courses for Discom personnel is required.

3. AI/ML capabilities are crucial for Discoms to manage smart grid technologies and new challenges in demand forecasting – AIDA be supported by REC/PFC for setting up a COE in this domain area

4. Similar COE required for capacity expansion planning.

5. MOU with NPTI to develop courses for senior leadership in DISCOMs.

6. Discussions going on with IIM Lucknow to develop MBA programme for power sector professionals.

Making Discoms Future Ready
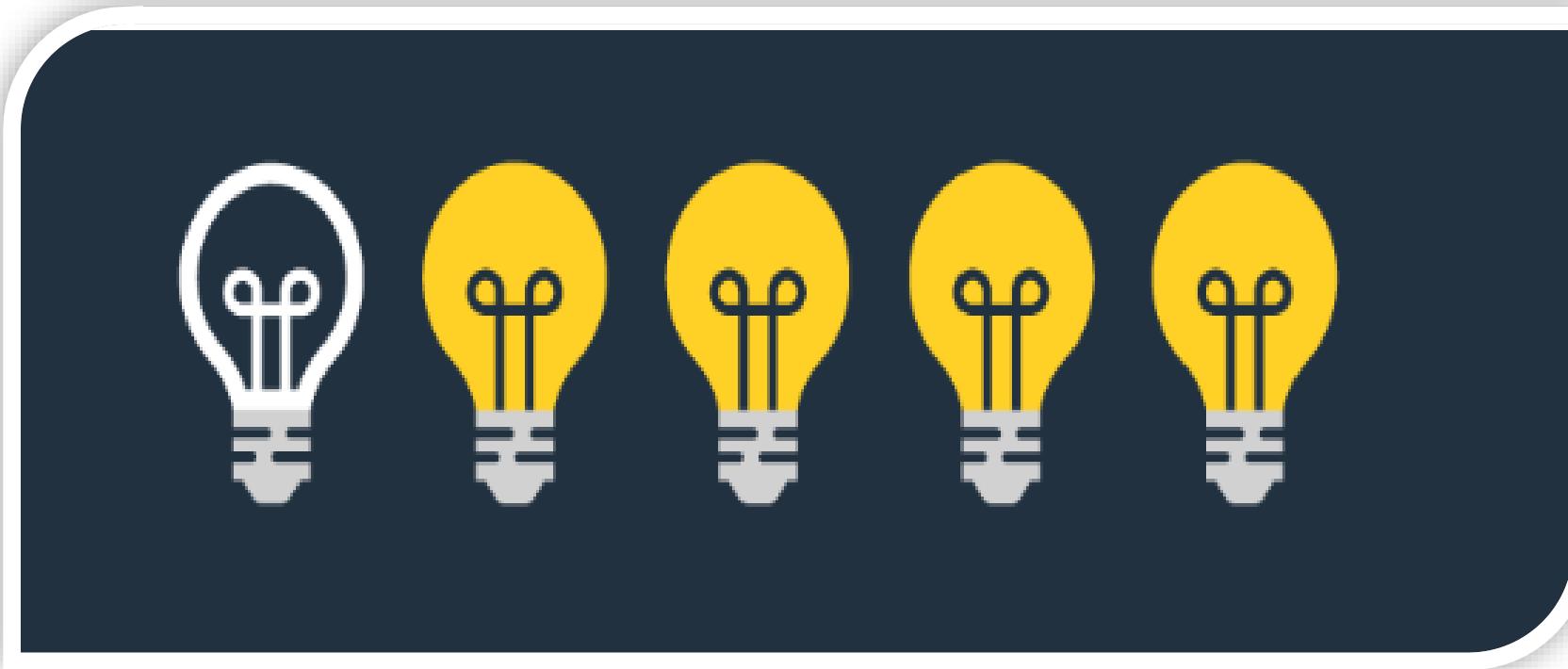
Present Scenario

1. This has become a priority action area globally in the context of high RE and DRE for energy transition and increased expectations for better reliability

2. <u>Singapore based ranking data</u> : only one utility from India

3. India has been proactive in deploying SCADA systems under R-APDRP. Initially, 72 towns across 18 states were identified for implementation

4. By October 2018, the number of commissioned SCADA rose to 52, but only 27 were fully operational—about 51.9%. Recent nationwide data (2024–25) remains limited, though a few states like Kerala and Tamil Nadu have reported success in select cities. SCADA upgrades continue, with SLDC modernization targeted for completion by 2026

5. Under RDSS, we targeted installation of 25 crore smart meters by March 2025 but the pace is slower than targeted. Till date we have installed 4.5 crore smart meters only

Interventions required

1. Smart meters have a number of significant benefits in controlling power purchase and network investment costs (other than the improvements in billing and collection)

2. Need for a comprehensive study to measure these benefits in leading states like Assam and Bihar to demonstrate all these gains in order to have regulatory buy-in for installation in low loss or low consumption consumer areas

3. Pre-paid metering is a new offering for domestic consumers. Its implementation would be gradual as IT systems (for arrears recovery and reconnection time) stabilise

4. In view of the time taken for procurement under PPP mode, timelines for smart metering roll out need review

5. Need for hand holding the Discoms in operations and utilization of SCADA like systems after the initial OEM support period

Ensuring Affordability

Case for affordability

1. SDGs can not be achieved otherwise

2. Higher electricity tariffs adversely affects industrial competitiveness

3. Average household in India spends double the percentage of its income on energy costs as compared to country like Canada

4. Subsidy burden on states' budget has increased from Rs 47,965 Cr in FY15 to 2,10,784 Cr. in FY24

5. Cost to serve is majorly impacted by decisions taken regarding capacity expansion, procurement contract design, and efficiency in scheduling

6. Consumer tariffs are also affected by discriminatory allocation of network costs among various consumer types, as shown below

Case for affordability (Tariff issue)

> **Domestic Tariff - (3 kW, 500 Units per month)**

> **Large Industrial (1000 KW, 40% LF, 3,65,000 Units per month)**

Tariff In INR/KWh

Country	Domestic Tariff	Industrial Tariff
India	2.97 - 14.23	3.35 - 13.81
Malaysia	~8	~6
Thailand	~10	~10
Vietnam	~10	~8

Source : REC, Websites of the Foreign Utilities

Interventions to ensure affordability (1/2)

1. Discoms be assisted to adopt advanced optimisation models for capacity expansion planning

2. Power procurement contracts need modification to reduce fixed cost burden in long term - Shorter PPA duration, Capacity only contracts, and other market design improvements - Recommendations of expert group be implemented on priority

3. Central agencies to facilitate joint procurement to serve needs of states

4. Handhold states to adopt Security Constrained Economic Dispatch (SCED) for least cost scheduling

5. National policy   for fair allocation of network usage, banking and standby costs to open access, captive and net metering consumers – presently these are tilted against the consumers supplied by Discoms.

6. Open Access regime should mandate a minimum stable period for availing open access, not an opportunistic time block wise approach which is shifting the price risk to utility served consumers

Interventions to ensure affordability (1/2)

7. Strengthen APTEL for expeditious disposal to reduce interest burden in tariffs

8. Review tariff regulations for central generators to reduce impact on power purchase costs of Discoms (high ROE in low interest regime etc.)

9. Government subsidy be provided for more number of Green Corridors instead of socialising the waived transmission charges on ISTS

10. Rationalise the high trading margin being charged by SECI and other REIAs

11. Interest on loan payable to generating and transmission companies should be on normative basis

Improving Reliability of Supply

Context and suggestions

1. India SAIDI and SAIFI are way behind compared to other Asian developing countries

2. Disallowances in power purchase costs by SERCs forces Discoms to curtail supply hours - need to modify the regulatory approach according to the amended Electricity Rules for sharing of gains and losses

3. Rickety network infrastructure due to grossly inadequate O&M provision in large number of areas

4. Guidelines issued by CEA in Jan 2025 indicate that many SERCs give very low level of O&M expenses - a national policy is required to mandate a normative approach as suggested by CEA and also to distinguish Capex from O&M activities

5. Efficient management of distribution network needs GOI support to Discoms to adopt Distribution System Operator (DSO) approach

6. Review the CGRF Rules/regulations to bring these in line with the provisions of the Act – multiplicity of forums obstructs speedy grievance redressal

Sustainability of Supply

Context and suggestions

1. National goals of Net Zero by 2070 and intermediate NDCs need Discom/state specific pathways keeping in view the present ground realities in order to limit the resultant tariff increase in many states

2. Depending upon the present level of performance, state may be given differentiated RPO trajectory along with necessary VGF to keep tariff increase to minimal

3. Helping SERCs to design effective and practical TOD tariffs that can reduce the need of costly storage capacities

4. GOI guidance and support is required to assist Discoms and SERCs implement Demand Response interventions which will reduce T&D and storage investments - a national policy implemented by state-level regulations is required

5. Review Net Metering Rules to lower the threshold to 5 KW

Summary (1/2)

1. Annual review of Tariff Orders and take up the non-compliance of Tariff Policy and Rules with FOR – disallowances, inadequate FPPCA, underfunded O&M

2. Review of Tariff setting framework - timely revision linked with price rise, adequate normative O&M allowances and fair allocation of network/standby/banking costs

3. National Policy for collection of dues in rural areas and payment of Government dues

4. Mission approach to control cost of bulk electricity - Expansion planning, PPA structure review, Market development by CERC, VGF/Grants to absorb cost of RE integration including transmission

5. Measure various benefits of smart metering accruing to Discoms to get support for comprehensive roll out, review the roll out timelines

6. Gradual adoption of pre-paid mode of payment by consumers

7. Support AIDA in research studies/capacity building activities/COE in AI/ML area

8. Strengthen APTEL for expeditious disposal of cases

9. Reform linked credit enhancement support to Discoms for reducing their financing costs

10. Amend the Rules on CGRF in line with the Act for expeditious redressal of consumer grievances
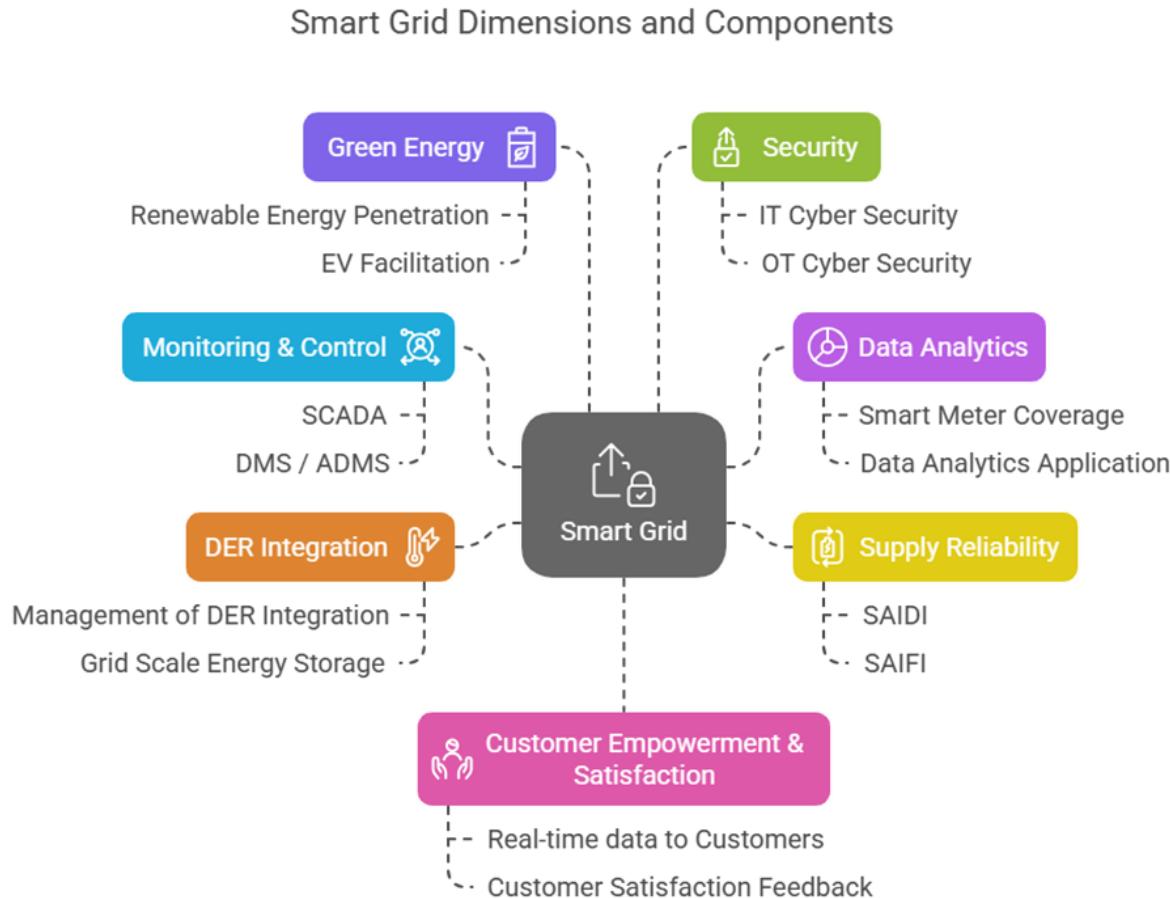
Benefits of Smart Meters

S.No.	Benefit Theme	Summary
1	Operational Efficiency & Cost Savings	Remote meter reading eliminates manual visits, reduces human errors, lowers billing cycle time, and minimizes disconnection/reconnection costs.
2	Revenue Enhancement & Loss Reduction	Accurate consumption data, reduced dead meters, real-time tamper detection, and better billing accuracy improve revenue and reduce AT&C losses. Proven in multiple DISCOMs.
3	Improved Fault & Outage Management	Real-time alerts ('last gasp' & 'first breath') enable faster outage detection and restoration, boosting service reliability and customer satisfaction; also minimize loss of revenue
4	Better Load Forecasting & Demand Management	Granular, time-stamped consumption data improves demand forecasting, supports load shifting, ToU tariffs, and reduces expensive peak power purchases.
5	Enhanced Asset & Network Optimization	Smart Meter data helps identify over/under-loaded network segments, supports predictive maintenance, and optimizes infrastructure planning.
6	Power Quality Monitoring	Real-time tracking of power factor, voltage, and current ensures better system power quality and faster issue resolution.
7	Flexible Customer Services & Engagement	Supports pre-paid/post-paid modes, remote operations (switching, health monitoring), behavior insights, and reduces burden on customer service centers.
8	Improved Regulatory Compliance & Reporting	Accurate, real-time data enables reliable calculation of key performance indices (SAIDI, SAIFI, CAIDI, CAIFI) and energy auditing.

Singapore Based Utility Ranking Data

Smart Grid Dimensions and Components

- **Green Energy**
  - Renewable Energy Penetration
  - EV Facilitation
- **Security**
  - IT Cyber Security
  - OT Cyber Security
- **Monitoring & Control**
  - SCADA
  - DMS / ADMS
- **Data Analytics**
  - Smart Meter Coverage
  - Data Analytics Application
- **DER Integration**
  - Management of DER Integration
  - Grid Scale Energy Storage
- **Supply Reliability**
  - SAIDI
  - SAIFI
- **Customer Empowerment & Satisfaction**
  - Real-time data to Customers
  - Customer Satisfaction Feedback

Smart Grid

Utilities	Country	Score%
State Grid Shanghai	China	94.6%
TEPCO	Japan	89.3%
Tata power - DDL	India	83.9%
EVN HMC	Vietnam	80.4%
Meralco	Philippines	69.6%
PLN	Indonesia	69.6%
PEA	Thailand	69.6%
Enel Dist Sao Paulo	Brazil	58.9%

These are Benchmarking Results of 2024 and 100 utilities have been considered under this

SAIDI and SAIFI Comparison - Asian Countries

Country/Region	SAIDI (minutes/year)	SAIFI (interruptions/year)	Remarks
Singapore	0.14	0.008	Among the world's most reliable grids
Japan	28.00	0.12	Average from 2001 to 2023
Malaysia	46.10	0.80	2023 data; Kuala Lumpur achieved 26.23 minutes SAIDI
Thailand	19.85	0.57	2023 data for Bangkok area
Thailand	34.98	1.76	2022 data; varies by region
Indonesia	~360 (6 hours)	4.0	2021 data; significant improvements from previous years
India	~600 (10 hours)	~15	

Compared to other progressive Asian countries, India's power reliability — reflected in its SAIDI (around 600 minutes) and SAIFI (about 15 interruptions) — still lags behind regional peers like Singapore, Japan, Malaysia, and Thailand, which consistently maintain much lower outage durations and frequencies. While countries like Singapore report near-perfect reliability with SAIDI below 1 minute and Japan and Malaysia keep it under 50 minutes, India's performance is weighed down by its wide urban-rural disparity, aging infrastructure, and grid management challenges. However, India is steadily improving through modernization efforts like smart grid adoption and distribution reforms, although closing the gap with advanced Asian countries will require sustained investment and more uniform service quality across all states.

THANKS