

Ampera Energy: Corporate Presentation

Energy. Reimagined.
Optimized by Intelligence.
Executed with Precision.



WHAT DO WE DO

We Transform Energy Portfolios

End-to-end Green Energy & Sustainability solutions for India's commercial and industrial sector.

▪ Services

- Climate Change Initiatives
- Green Power Transactions
- Project Development

▪ AmpeX: AI Powered Digital Platform

- Power procurement optimization and savings recommendation
- Load-Generation Portfolio optimization

**We do not just advise,
We optimize, structure and execute.**



WHO WE ARE



Prabhajit Kumar Sarkar – Founder & CEO

Former MD & CEO, Power Exchange India Ltd. (PXIL – NSE Group)
20+ years shaping India's power markets, Climate framework & exchange ecosystem.

Recognized expert in:

- Power Markets & Trading
- Renewable & Green Energy Structuring
- Regulatory & Policy Advisory
- Decarbonization Strategy



Mayukh Mukherjee – Co-Founder

20+ years in Power Sector – Operations, Strategy,
Regulatory & Investment Structuring



Ravi Varanasi – Advisor

Former Chief Business Officer, National Stock Exchange
35+ years in Capital Markets & Exchange Infrastructure & Institutional Advisory

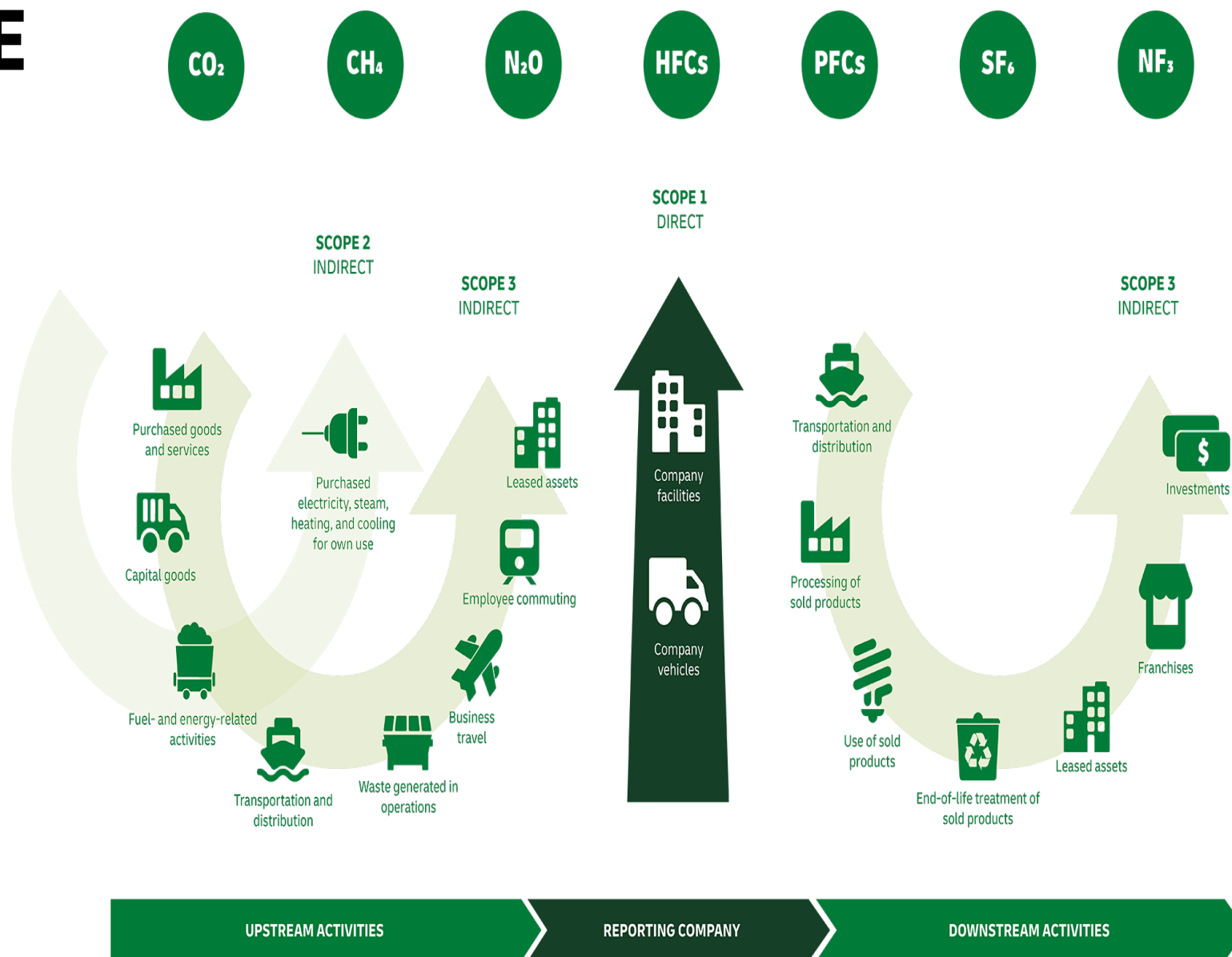
Founded by Industry Leaders in Power & Sustainability

- Power Markets & Exchanges
- Open Access structuring
- Renewable project development
- ESG and carbon strategy
- Financial modelling & investment evaluation

Deep domain expertise across Power Markets, Renewables, ESG & Capital Markets

- Materiality assessment: identifying ESG risks, impacts and stakeholder priorities
- Target-setting, KPI tracking and year-on-year performance measurement
- Disclosure reports aligned to GRI, CDP, BRSR, TCFD, SASB and PRI frameworks

- GHG inventory: full Scope 1, 2, and 3 emissions accounting and carbon footprint measurement
- Science-based decarbonization roadmap towards a low-carbon emissions profile
- Implementation of reduction projects: renewable power, energy efficiency and fuel switching
- Pathway to carbon neutrality and Net Zero

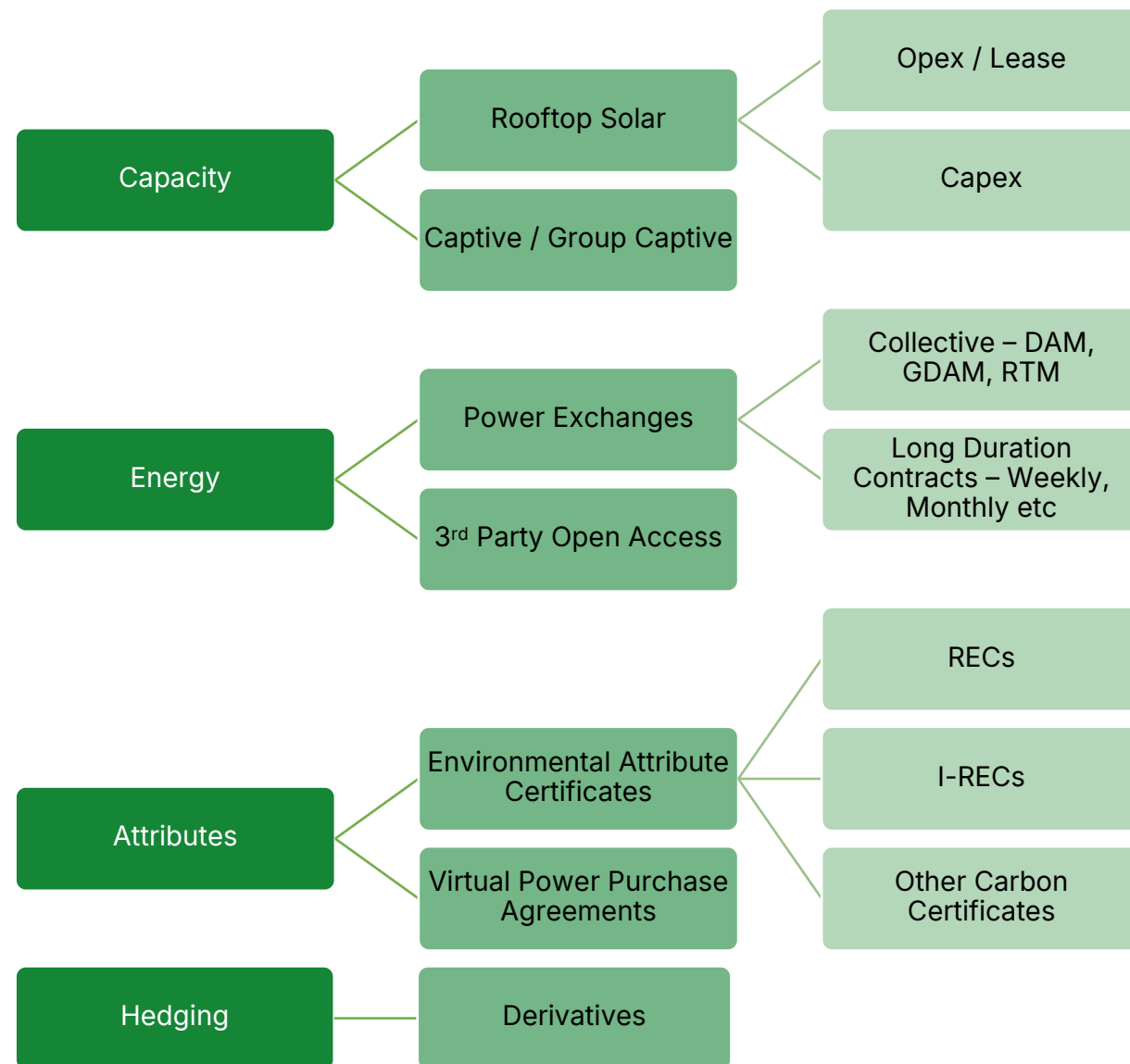


GREEN POWER SOLUTIONS

We help companies reduce power costs and meet green targets through structured procurement

- Flexible Capex and Opex models
- Long-term and short-term transactions
- Demand-led approach: structured around current and future load requirements
- Full technical and commercial evaluation across State regulations, Open Access rules and applicable policies
- End-to-end transaction support: from term-sheet to commissioning across short, medium and long tenures

Renewable Energy Procurement Routes



PROJECT DEVELOPMENT

- Renewable Energy projects with Battery Energy Storage (BESS) integration (grid-scale and behind-the-meter)
- Greenfield and Brownfield electrical infrastructure: HT/LT installations, substations, switchyards and Discom coordination
- I-REC project registration, certificate issuance and end-to-end transaction management
- Carbon Emission Reduction project development, MRV and implementation under recognised standards
- Investment & Advisory Support
 - Project feasibility studies and Detailed Project Report (DPR) preparation
 - Investment analysis: Project P&L, balance sheet, cash flow projections, IRR, and NPV modelling
 - Technical, regulatory and commercial due diligence for project investment decisions



OUR SERVICES

India's Only End-to-End Green Energy Advisory,
Digital & Execution Platform for C&I Consumers



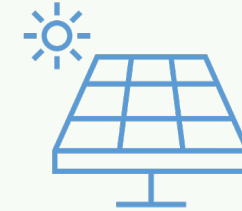
Climate Change Initiatives

- Sustainability Reporting
- Reports and Disclosures as per frameworks like GRI, BRSR, PRI, TCFD, SASB etc.
- Measuring GHG emissions
- Low-carbon roadmap
- Pathway to carbon neutrality and Net Zero



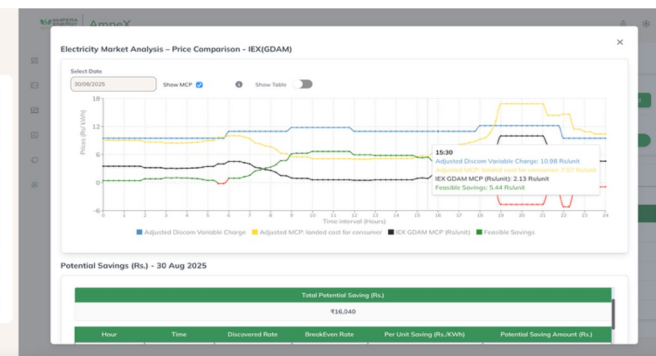
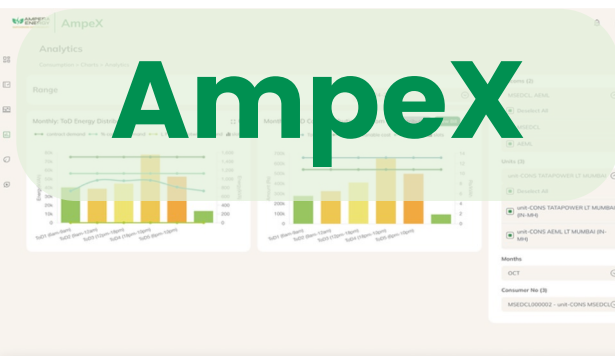
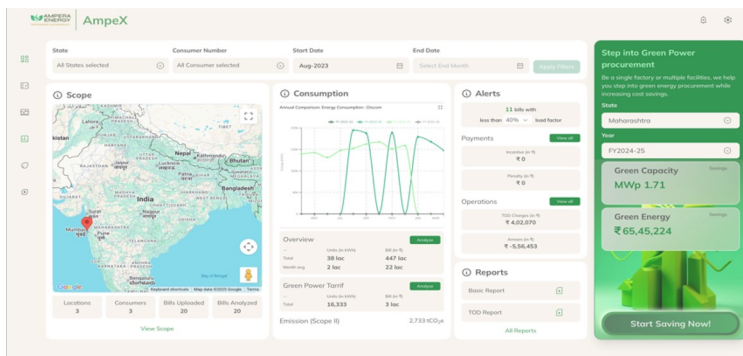
Green Power

- | | |
|-------------------|---|
| Capacity | - Captive / Group Captive
- Battery Energy Storage Systems
- Roof Top Solar (RTS) |
| Energy | - Power Exchanges
- 3rd Party Open access transactions |
| Attributes | - International-Renewable Energy Certificates (I-RECs)
- Other Environmental Attribute Certificates (RECs, TIGRs, CERs etc.) |
| Hedging | - Electricity Derivatives |



Project Development

- Renewable Energy Project (+BESS)
- Electrical installations (HT / LT), Discom Coordination
- I-REC project registration, issuance and transaction
- Carbon Emission Reduction Project development
- Other Project Development support
 - Project feasibility and DPR preparation
 - Investment analysis and Due Diligence



SOME MARQUEE CLIENTS



LARGE MANUFACTURING COMPANY

Optimizing a Multi-State Renewable Portfolio via Inter-State Group Captive (ISTS Open Access)

PORTFOLIO OVERVIEW

GENERATION

Madhya Pradesh
20 MW Solar Plant
Role: Captive Generator

CONSUMPTION

Punjab - Ropar
7 MW | 7,800 KVA | 132 kV
₹2.95 Cr / yr savings

Punjab - Mohali
1.5 MW | 2,490 KVA | 66 kV
₹68 Lac / yr savings

Assam - Guwahati
1.5 MW | 3,700 KVA | 33 kV
₹41 Lac / yr savings

SCOPE OF SERVICES

Client had surplus solar in MP sold on exchange at ₹2–3/unit, while Punjab and Assam factories bought from DISCOM at ₹7.5–11.7/unit. Ampera structured the full portfolio as an Inter-State Group Captive to unlock the stranded value.

01 Feasibility & Portfolio Design

Detailed feasibility across 4 locations; generation vs. consumption optimisation; capacity allocation to maximise savings at each site

02 Group Captive Structuring

Designed inter-state group captive framework; ownership & equity compliance (26%/51% criteria); holding-subsidiary relationship mapping

03 Regulatory Filings & Approvals

Bilateral ISTS open access applications; NOAR registration; CEA approvals; nodal agency coordination — MP, Punjab & Assam

04 ABT Meters & Infrastructure

ABT meter installation & compliance at generator and all consumer sites; SLDC coordination and commissioning support

05 Ongoing Operations

Monthly scheduling & dispatch; power flow management; billing reconciliation; transaction management on an ongoing basis

IMPACT

₹4+ Cr

Annual Cost Savings

Across all 3 consumption locations combined

~17%

Additional RE usage

Scope 2 emissions reduction
~7500 tCO2e reduction

~40%

Tariff Reduction

DISCOM → Group Captive

10 MW

Solar Capacity Used

Redirected from exchange to own plants

3 States

Multi-State Coverage (to be further expanded)

MP · Punjab · Assam



Ampex

Integrated Energy Intelligence and Transaction Platform

Consumption Visualization

Analytics

Capacity Recommendations

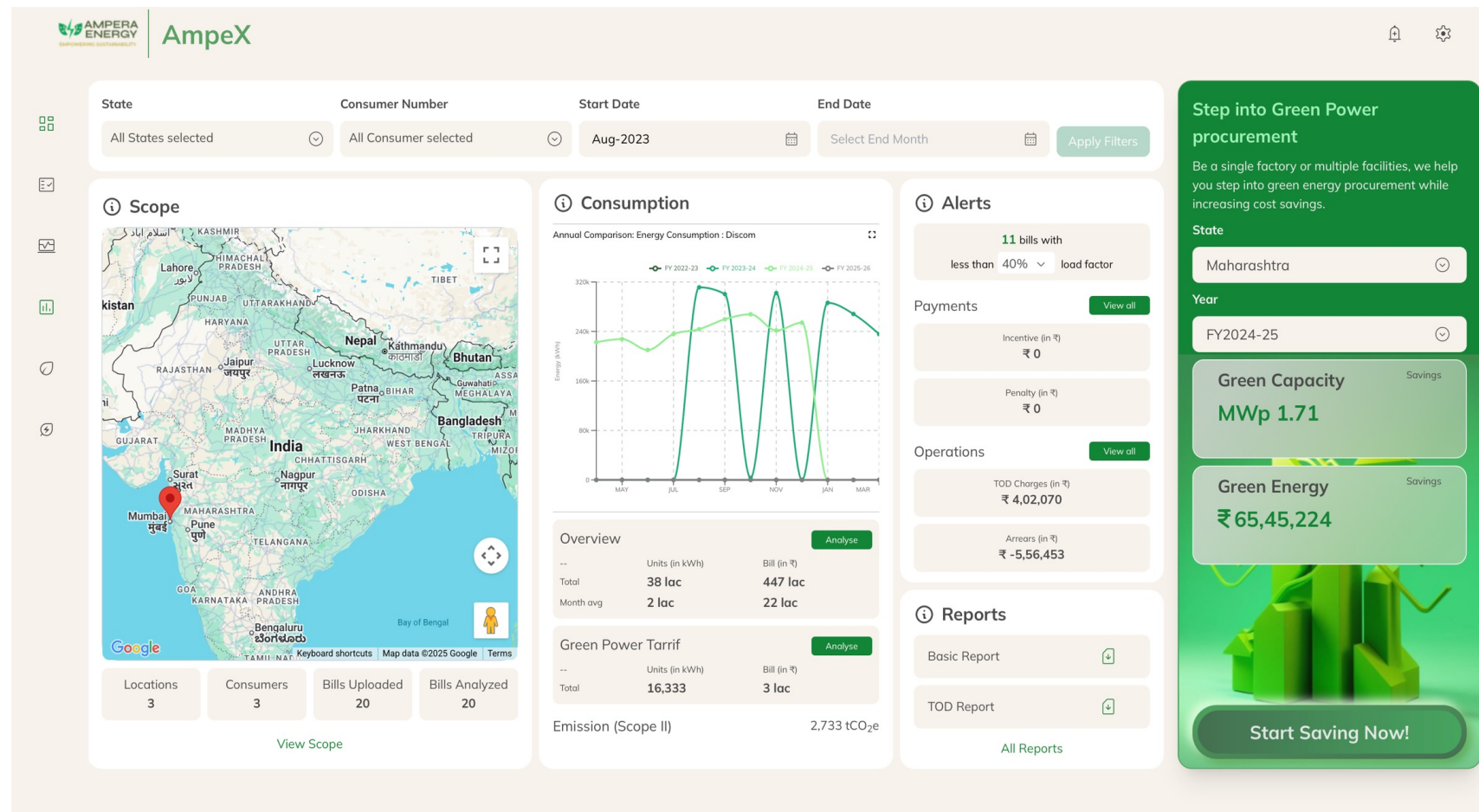
Energy Transaction solution

INTRODUCING AMPEX

AmpeX: India's Integrated Energy Intelligence & Transaction Platform

Purpose built platform for C&I consumers: to navigate India's regulatory and market complexity

- Consumption Analytics
- Capacity Optimization
- Financial Modelling
- Transaction Enablement



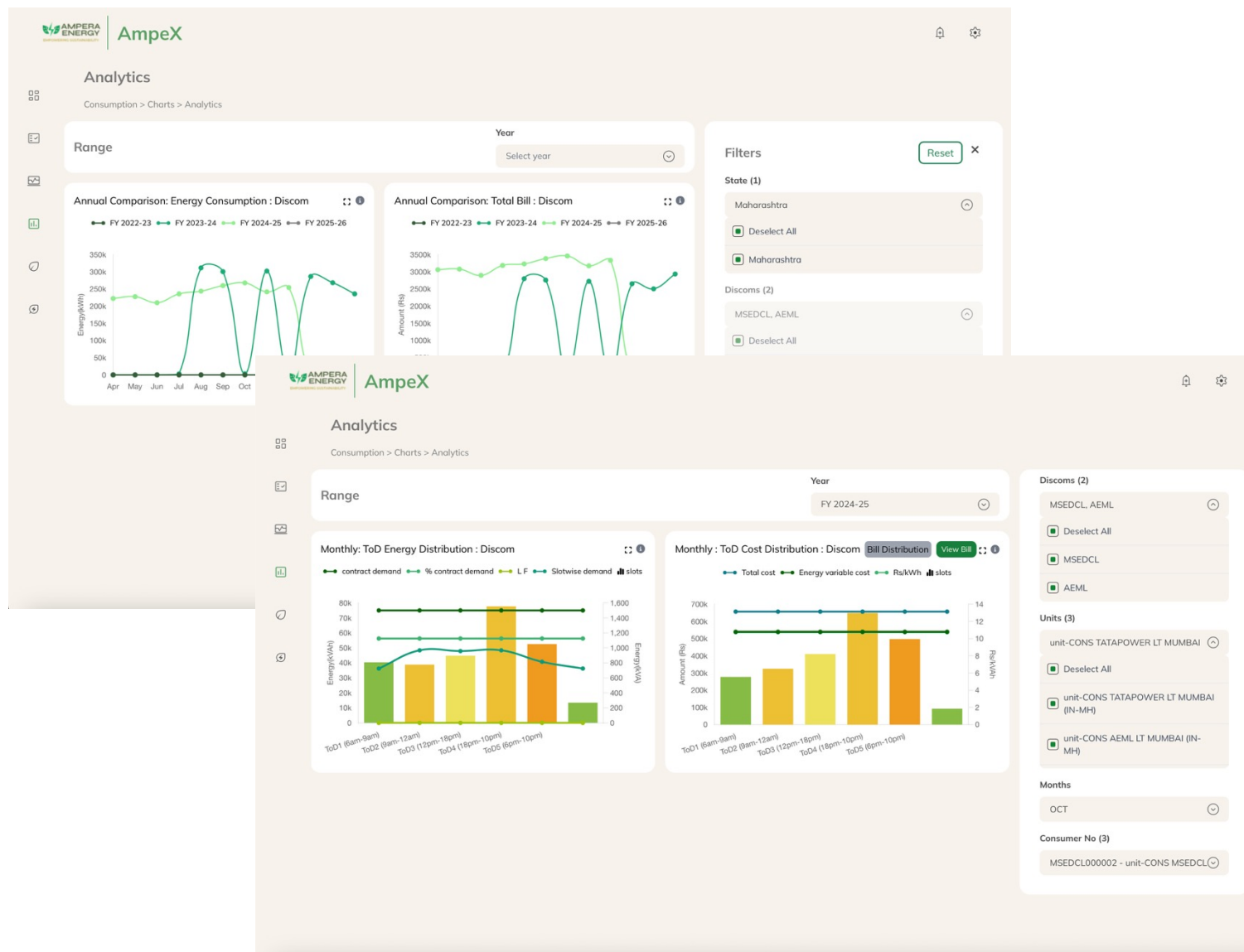
AmpeX is the digital operating layer that powers every Ampera engagement.

KNOW YOUR CONSUMPTION

Multi-Location Energy Intelligence

- AmpeX provides:
 - TOD-level analytics (96 blocks)
 - Bill automation & breakdown
 - Load & PF tracking
 - Location benchmarking
 - Scope-2 emission estimation

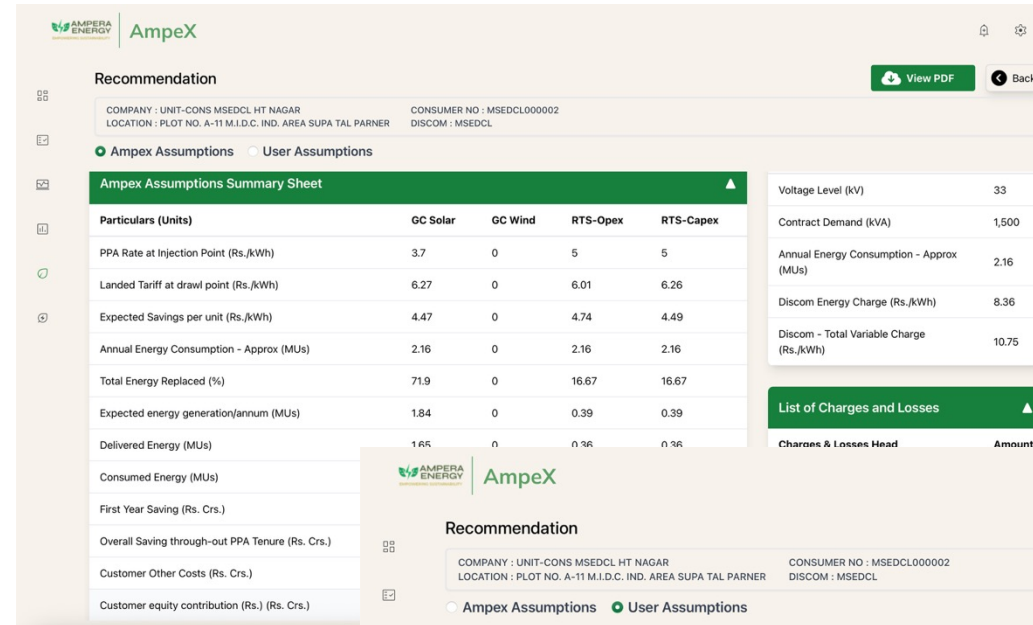
From portfolio view
to meter-level insights
across multi-location portfolios.



FINANCIAL DECISION INTELLIGENCE

Investment-Ready Green Capacity Recommendations

- For each site, AmpeX calculates:
 - Optimal rooftop capacity
 - Group captive sizing
 - Exchange breakeven pricing
 - 3rd party OA feasibility
- Outputs include:
 - Annual & lifetime savings
 - IRR & NPV
 - Payback period
 - tCO₂e reduction
 - Sensitivity analysis
- Regulatory parameters auto-integrated
 - State-specific charges & Losses
 - Banking provisions
 - TOD adjustments
 - Latest regulatory updates



AmpeX Recommendation

COMPANY : UNIT-CONS MSEDCIL HT NAGAR
LOCATION : PLOT NO. A-11 M.I.D.C. IND. AREA SUPA TAL PARNER
CONSUMER NO : MSEDCIL000002
DISCOM : MSEDCIL

☒ Ampex Assumptions ☐ User Assumptions

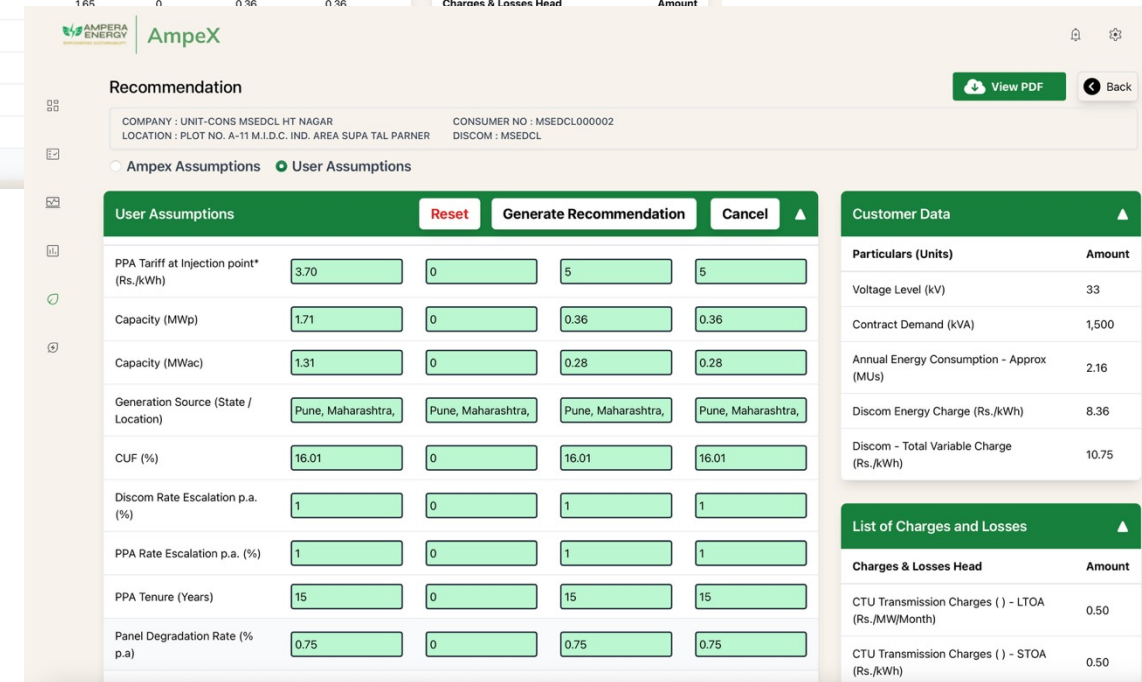
Ampex Assumptions Summary Sheet

Particulars (Units)	GC Solar	GC Wind	RTS-Opex	RTS-Capex
PPA Rate at Injection Point (Rs./kWh)	3.7	0	5	5
Landed Tariff at drawl point (Rs./kWh)	6.27	0	6.01	6.26
Expected Savings per unit (Rs./kWh)	4.47	0	4.74	4.49
Annual Energy Consumption - Approx (MUs)	2.16	0	2.16	2.16
Total Energy Replaced (%)	71.9	0	16.67	16.67
Expected energy generation/annum (MUs)	1.84	0	0.39	0.39
Delivered Energy (MUs)	1.65	0	0.36	0.36
Consumed Energy (MUs)				
First Year Saving (Rs. Crs.)				
Overall Saving through-out PPA Tenure (Rs. Crs.)				
Customer Other Costs (Rs. Crs.)				
Customer equity contribution (Rs.) (Rs. Crs.)				

Voltage Level (kV)	33
Contract Demand (kVA)	1,500
Annual Energy Consumption - Approx (MUs)	2.16
Discom Energy Charge (Rs./kWh)	8.36
Discom - Total Variable Charge (Rs./kWh)	10.75

List of Charges and Losses

Charges & Losses Head	Amount
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AmpeX Recommendation

COMPANY : UNIT-CONS MSEDCIL HT NAGAR
LOCATION : PLOT NO. A-11 M.I.D.C. IND. AREA SUPA TAL PARNER
CONSUMER NO : MSEDCIL000002
DISCOM : MSEDCIL

☐ Ampex Assumptions ☒ User Assumptions

User Assumptions				
PPA Tariff at Injection point* (Rs./kWh)	3.70	0	5	5
Capacity (MWp)	1.71	0	0.36	0.36
Capacity (MWac)	1.31	0	0.28	0.28
Generation Source (State / Location)	Pune, Maharashtra,	Pune, Maharashtra,	Pune, Maharashtra,	Pune, Maharashtra,
CUF (%)	16.01	0	16.01	16.01
Discom Rate Escalation p.a. (%)	1	0	1	1
PPA Rate Escalation p.a. (%)	1	0	1	1
PPA Tenure (Years)	15	0	15	15
Panel Degradation Rate (%) p.a)	0.75	0	0.75	0.75

Customer Data

Particulars (Units)	Amount
Voltage Level (kV)	33
Contract Demand (kVA)	1,500
Annual Energy Consumption - Approx (MUs)	2.16
Discom Energy Charge (Rs./kWh)	8.36
Discom - Total Variable Charge (Rs./kWh)	10.75

List of Charges and Losses

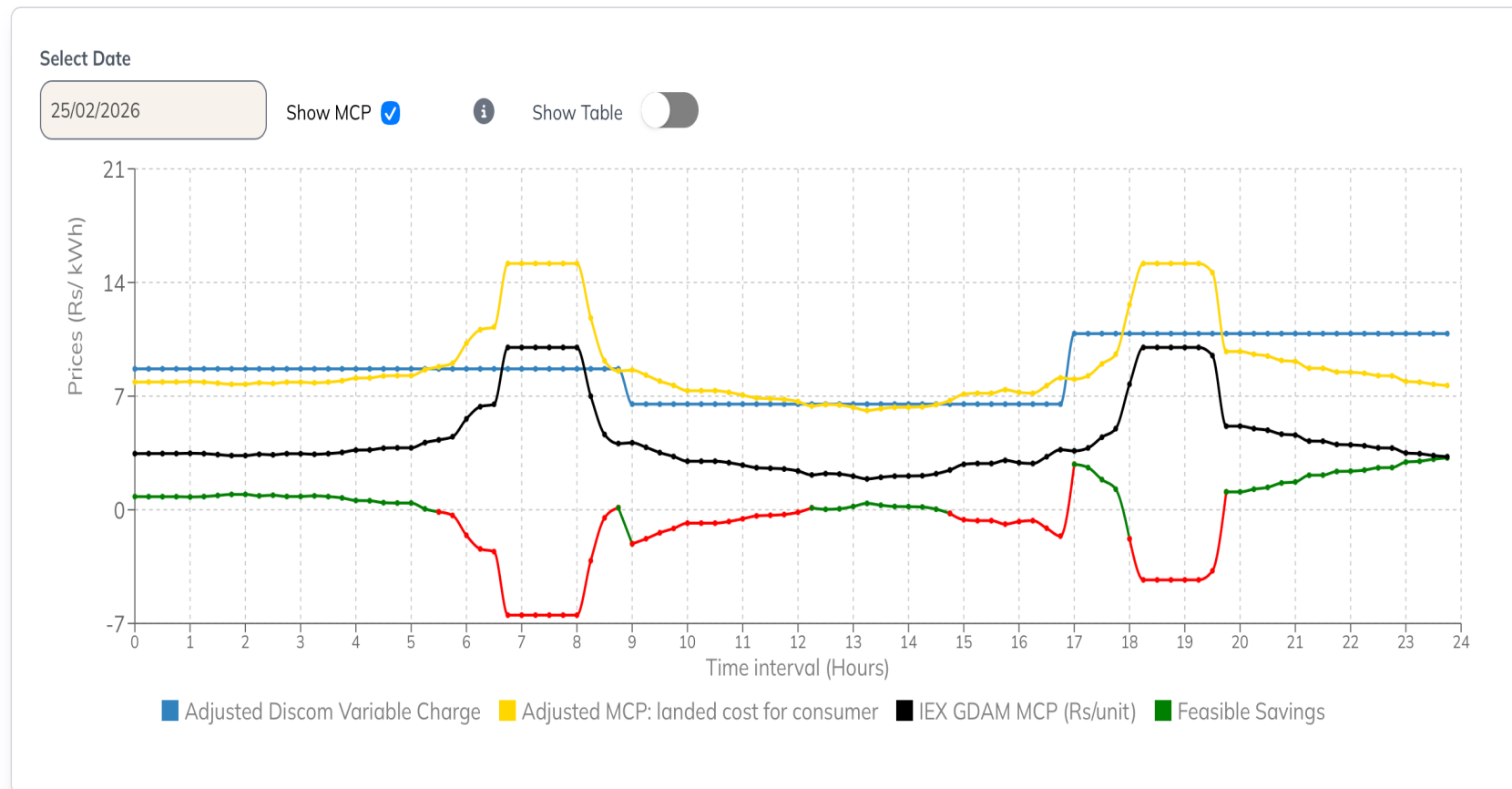
Charges & Losses Head	Amount
CTU Transmission Charges () - LTOA (Rs./MW/Month)	0.50
CTU Transmission Charges () - STOA (Rs./kWh)	0.50

TRADE SMARTER ON POWER EXCHANGE

AmpeX identifies every time block where Power Exchange procurement saves money

Data-Driven Exchange Optimization

- AmpeX calculates:
 - Discom variable cost
 - Landed charges
 - Time-block Breakeven Price (BEP)
- If $MCP < BEP \rightarrow$ Savings guaranteed: AmpeX flags the opportunity and supports bid placement
- Supports:
 - Predictive comparison
 - Bid assistance
 - Savings simulation



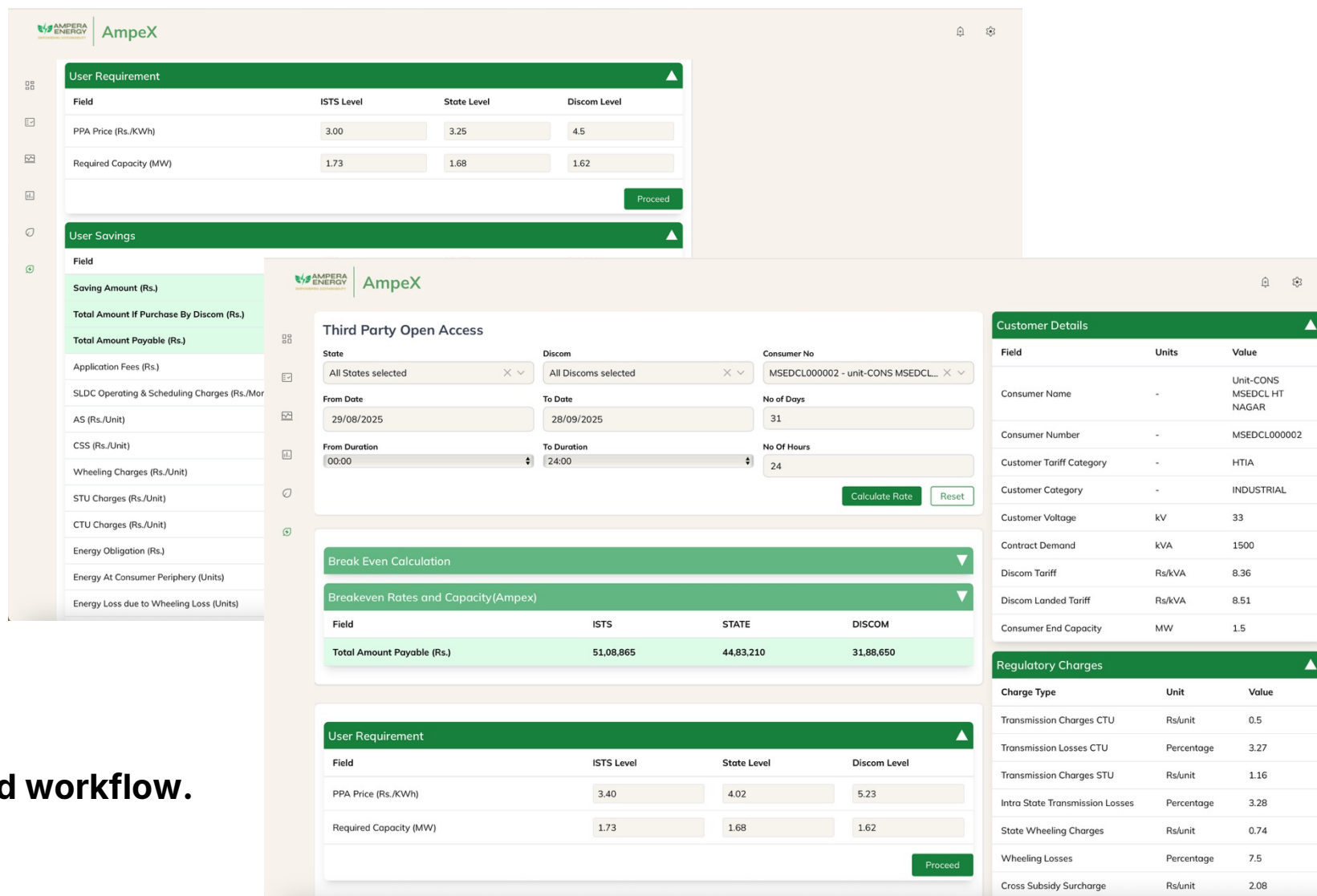
STRUCTURED OPEN ACCESS & CAPTIVE SOLUTIONS

From Financial Model to Execution

We provide:

- ISTS vs Intra-state evaluation
- Landed cost modelling
- Capacity structuring
- RfP preparation
- Developer negotiation
- Regulatory compliance support

Advisory + Execution in one integrated workflow.



The screenshot displays the AmpeX software interface, which is divided into several sections for managing energy projects.

User Requirement

Field	ISTS Level	State Level	Discom Level
PPA Price (Rs./KWh)	3.00	3.25	4.5
Required Capacity (MW)	1.73	1.68	1.62

Proceed

User Savings

Field	Value
Saving Amount (Rs.)	
Total Amount If Purchase By Discom (Rs.)	
Total Amount Payable (Rs.)	
Application Fees (Rs.)	
SLDC Operating & Scheduling Charges (Rs./Mor	
AS (Rs./Unit)	
CSS (Rs./Unit)	
Wheeling Charges (Rs./Unit)	
STU Charges (Rs./Unit)	
CTU Charges (Rs./Unit)	
Energy Obligation (Rs.)	
Energy At Consumer Periphery (Units)	
Energy Loss due to Wheeling Loss (Units)	

Third Party Open Access

State: All States selected | Discom: All Discoms selected | Consumer No: MSEDCL000002 - unit-CONS MSEDCL...

From Date: 29/08/2025 | To Date: 28/09/2025 | No of Days: 31

From Duration: 00:00 | To Duration: 24:00 | No Of Hours: 24

Calculate Rate **Reset**

Break Even Calculation

Breakeven Rates and Capacity(Ampex)

Field	ISTS	STATE	DISCOM
Total Amount Payable (Rs.)	51,08,865	44,83,210	31,88,650

Customer Details

Field	Units	Value
Consumer Name	-	Unit-CONS MSEDCL HT NAGAR
Consumer Number	-	MSEDCL000002
Customer Tariff Category	-	HTIA
Customer Category	-	INDUSTRIAL
Customer Voltage	kV	33
Contract Demand	kVA	1500
Discom Tariff	Rs/kVA	8.36
Discom Landed Tariff	Rs/kVA	8.51
Consumer End Capacity	MW	1.5

Regulatory Charges

Charge Type	Unit	Value
Transmission Charges CTU	Rs/unit	0.5
Transmission Losses CTU	Percentage	3.27
Transmission Charges STU	Rs/unit	1.16
Intra State Transmission Losses	Percentage	3.28
State Wheeling Charges	Rs/unit	0.74
Wheeling Losses	Percentage	7.5
Cross Subsidy Surcharge	Rs/unit	2.08

User Requirement (Bottom)

Field	ISTS Level	State Level	Discom Level
PPA Price (Rs./KWh)	3.40	4.02	5.23
Required Capacity (MW)	1.73	1.68	1.62

Proceed

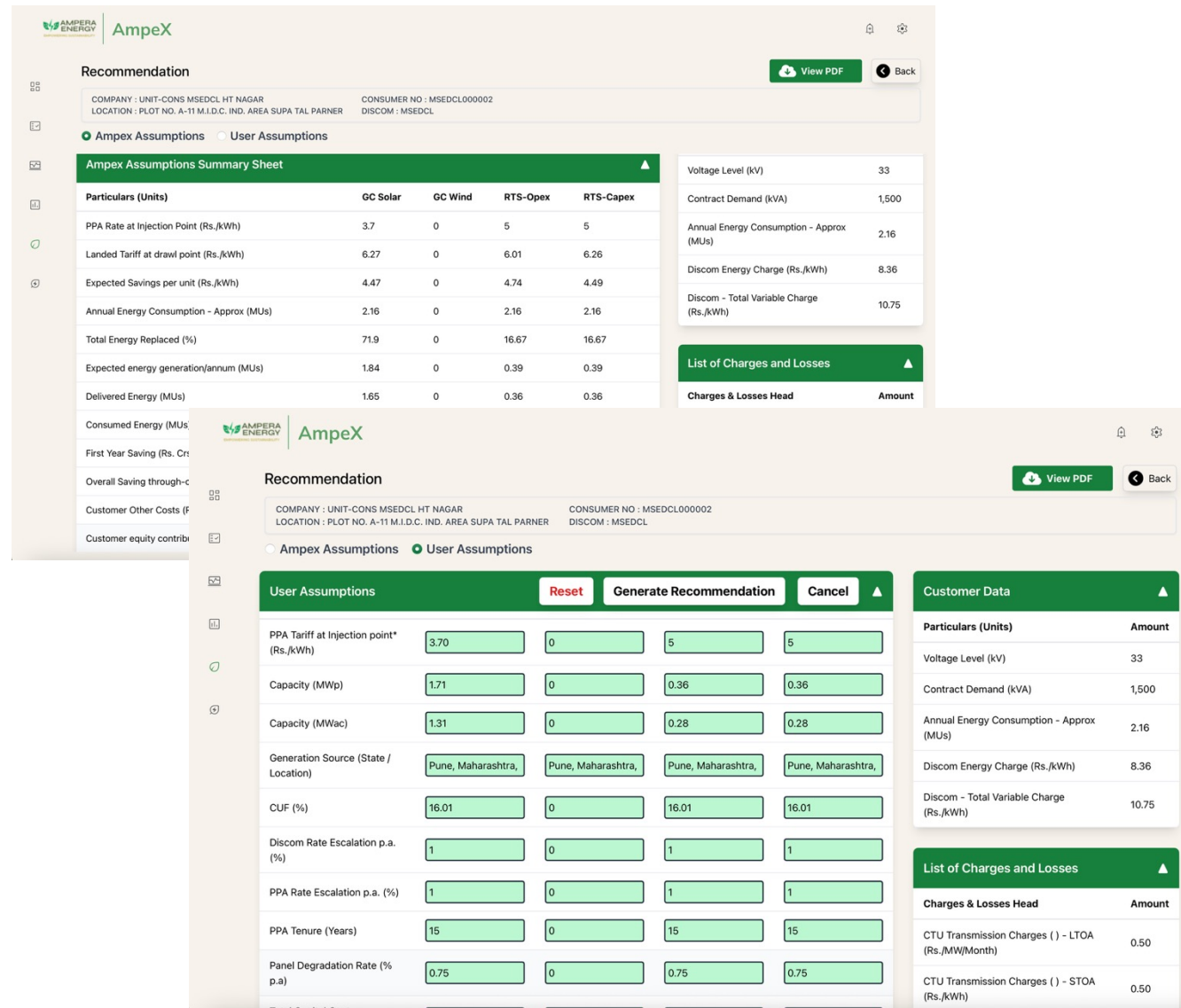
GROUP CAPTIVE & ROOFTOP SOLAR

Financial Intelligence for Investment Decisions

AmpeX generates:

- Annual savings projection
- 25-year lifetime model
- IRR & NPV
- Payback period
- Sensitivity analysis (tariff escalation)
- tCO₂e reduction

Decision-ready downloadable reports.



The screenshot displays the AmpeX software interface, which is used for generating financial intelligence for investment decisions. The interface is divided into several sections:

- Recommendation Section:** This section provides a summary of the project details, including the company name (UNIT-CONS MSEDCL HT NAGAR), location (PLOT NO. A-11 M.I.D.C. IND. AREA SUPA TAL PARNER), consumer number (MSEDCL000002), and the distribution company (DISCOM: MSEDCL).
- Assumptions Section:** This section allows users to input various assumptions for the project. It includes a table for "AmpeX Assumptions Summary Sheet" with columns for Particulars (Units), GC Solar, GC Wind, RTS-Opex, and RTS-Capex. The table lists various parameters such as PPA Rate at Injection Point, Landed Tariff at drawl point, Expected Savings per unit, Annual Energy Consumption, Total Energy Replaced, Expected energy generation/annum, Delivered Energy, Consumed Energy, First Year Saving, Overall Saving through-c, Customer Other Costs, and Customer equity contribi.
- Charges and Losses Section:** This section provides a detailed breakdown of the charges and losses associated with the project. It includes a table for "List of Charges and Losses" with columns for Charges & Losses Head and Amount. The table lists various charges such as CTU Transmission Charges (LTOA), CTU Transmission Charges (STOA), and Discom Energy Charge.
- User Assumptions Section:** This section allows users to input their own assumptions for the project. It includes a table for "User Assumptions" with columns for Particulars (Units), GC Solar, GC Wind, RTS-Opex, and RTS-Capex. The table lists various parameters such as PPA Tariff at Injection point, Capacity (MWp), Capacity (MWac), Generation Source (State / Location), CUF (%), Discom Rate Escalation p.a. (%), PPA Rate Escalation p.a. (%), PPA Tenure (Years), and Panel Degradation Rate (% p.a).



ANALYTICS & MARKET INTELLIGENCE

**Bespoke quantitative models for
India's wholesale power markets**
**Portfolio Optimisation | DAM / GDAM / RTM
Strategy**
**Risk Analytics: P50, P90, CVaR95 | BESS
Arbitrage Modelling**

ANALYTICAL CAPABILITIES FOR PORTFOLIO OPTIMIZATION

▪ RE Asset Dispatch Optimisation

- Hourly and 15-minute scheduling across wind, solar and BESS; identifies highest-value dispatch windows across DAM, GDAM and RTM to maximise revenue

▪ Bid Strategy & Market Intelligence

- Volume allocation across market segments; price sensitivity analysis; competitive pricing relative to breakeven and marginal cost for large asset portfolios

▪ Price Scenario Integration

- Works alongside external price forecasts; translates scenarios into portfolio P&L impacts, hedge ratios and CVaR bounds; the bridge between forecast and decision

▪ BESS Arbitrage & Grid Services Analytics

- Identifies peak / off-peak spread opportunities; models long-term BESS dispatch strategy as India's RTM and ancillary services markets deepen

Dispatch Optimisation

Buy-side and sell-side

Bid Strategy Analytics

DAM · GDAM · RTM · Bilateral

Risk & Scenarios

P50 · P90 · CVaR95

BESS Arbitrage

Peak / off-peak
spread capture

SELLER-SIDE PORTFOLIO OPTIMISATION

- **Case Study: International E-Fuels Developer | Wind + Solar + BESS**

- Portfolio: 353 MW wind + 600 MW solar + 401 MW / 840 MWh BESS supporting a large green hydrogen facility

- **Analytical Work**

- Hourly surplus monetisation modelling; DAM vs GDAM price comparison across 2022–2025; CTU vs STU connectivity economics; monthly surplus and deficit profiling

- **Key Finding: CTU + GDAM Is the Optimal Configuration**

- GDAM delivers Rs 403/MWh premium over DAM; CTU eliminates transmission loss and ISTS charge at the injection point for the seller

- **Recommended Revenue Strategy**

- CTU + GDAM generates Rs 179.5 Cr average annual surplus sale revenue vs Rs 145.5 Cr for least-favourable option, a Rs 34 Cr annual uplift

Rs 179.5 Cr

Avg annual surplus sale
revenue (CTU + GDAM)

+ Rs 34 Cr

Revenue uplift vs
least-favourable option

**Rs
4,799/MWh**

CTU + GDAM
realised sell rate

374 GWh

Annual RE surplus
monetised

BUYER-SIDE PROCUREMENT & RISK MODELLING

- **Case Study: Large Public Sector Refinery | Multi-Year Power Portfolio**
 - Multi-year power procurement optimisation for a refinery with large and diversified generation and procurement sources
- **Model Architecture: Two-Stage Python MILP**
 - Stage 1: annual capacity planning; Stage 2: rolling monthly operational dispatch at 15-minute granularity across all sources and routes
- **Constraints Modelled**
 - RPO compliance, STU / CTU transfer limits and upgrade events, BESS state-of-charge dynamics, captive / group captive rules, transaction-mode cost accounting
- **Risk Module: Monte Carlo Market Simulation**
 - 10000 scenarios generated from historical DAM / GDAM moments; year-wise P50, P90 and CVaR95 portfolio cost outputs for risk-informed planning

15-min

Operational dispatch
resolution

**10000
Scenarios**

Monte Carlo market
price simulation

5 Sources

Coal · Solar · Wind · BESS · Exchange

P50/P90

CVaR95 risk-adjusted
cost outputs

THOUGHT LEADERSHIP

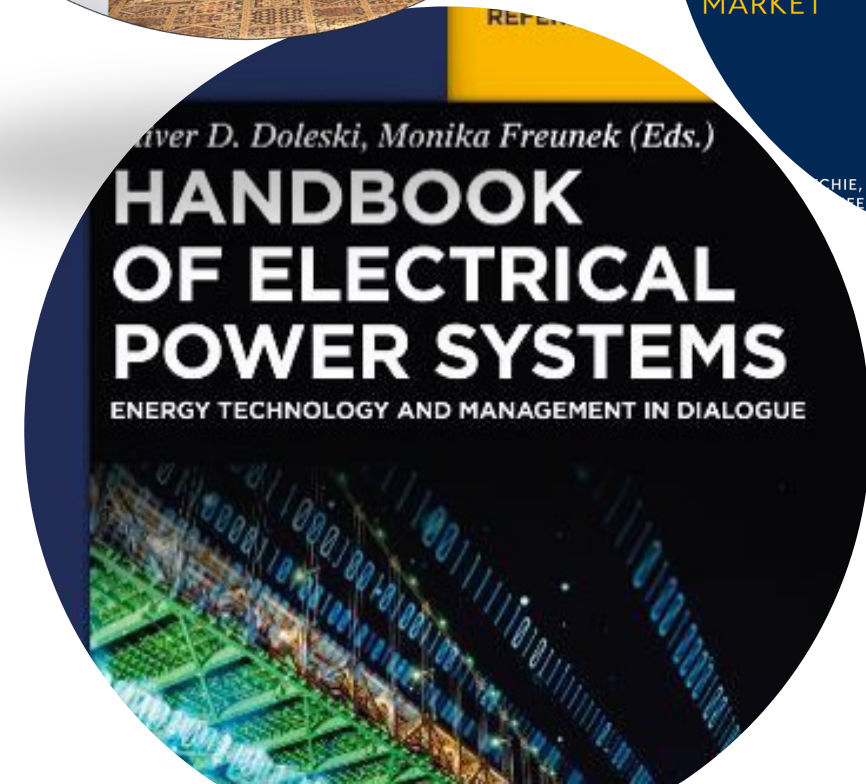
Recognised Voice in India's Power, Green Energy & Sustainability Ecosystem

- Published expert commentary on India's Carbon Credit Trading Scheme (CCTS) and green energy market design
- Author: "Handbook of Electrical Power Systems" (De Gruyter, August 2024); contributor to international power sector literature
- Active in industry forums – Elected Member of CII Western Region Council 2026, member of regulatory committees and taskforces

We bring policy intelligence to commercial decisions, bridging strategy and execution.



EFFECTIVE
INTERACTION
BETWEEN INDIA'S
CARBON CREDIT
TRADING SCHEME
& THE POWER
MARKET

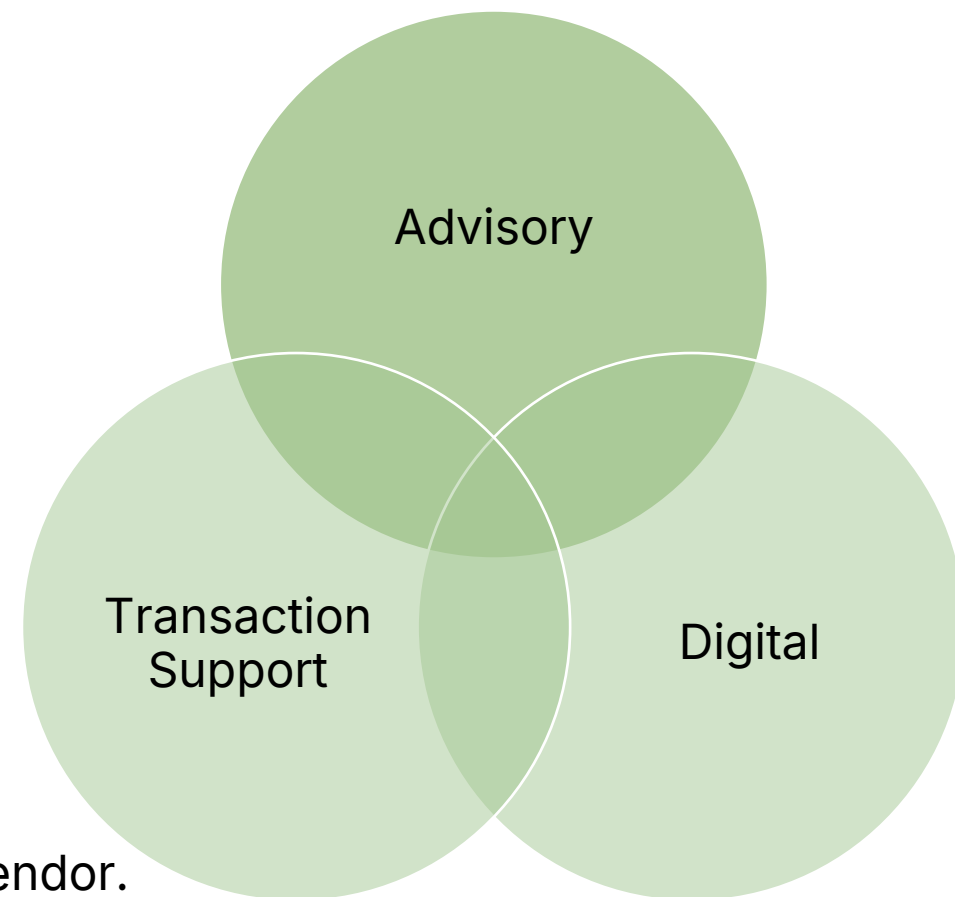


SCHIE, PRABHAJIT KUMAR SARKAR,
OFF & LUCIA LAVRIC

WHY AMPERA + AMPEX

Advisory. Digital. Execution.
In one integrated platform.

Typical Consultant	Ampera + AmpeX
Advisory only	Advisory + Digital + Execution
Static feasibility	Dynamic regulatory updates
Manual modelling	AI-enabled financial modelling
No monitoring	Continuous optimization



We become your **Energy Intelligence Partner**, not a one-time vendor.

LET'S EVALUATE YOUR SAVINGS POTENTIAL



Complimentary Preliminary Assessment

Start with a No-Obligation Energy Assessment

- We will provide:
 - Estimated savings potential
 - Suitable green procurement mix
 - RoI and IRR estimation
 - Decarbonization alignment roadmap
- Schedule a 30-minute diagnostic discussion
 - Phone: +91 79779 94945 / +91 78900 08488
 - Email: info@amperaenergy.in
 - Website: www.amperaenergy.in



**AMPERA
ENERGY**

EMPOWERING SUSTAINABILITY



Thank You

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