



**adani**  
Energy Solutions

**Adani Energy Solutions Limited**  
(Formerly known as Adani Transmission Limited)

**Credit Presentation**

**March 2024**



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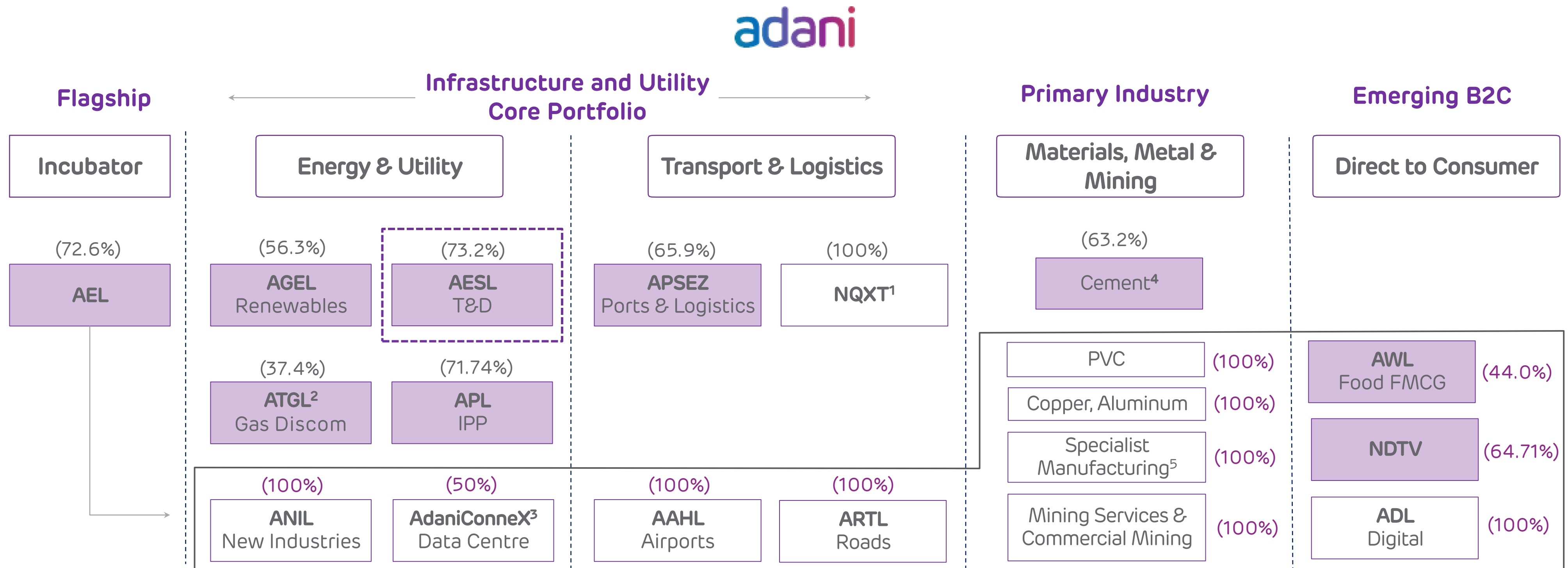


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**Adani Portfolio**



# Adani: A World Class Infrastructure & Utility Portfolio



(%): Promoter equity stake in Adani Portfolio companies  
 (%): AEL equity stake in its subsidiaries

- Represents public traded listed verticals

**A multi-decade story of high growth centered around infrastructure & utility core**

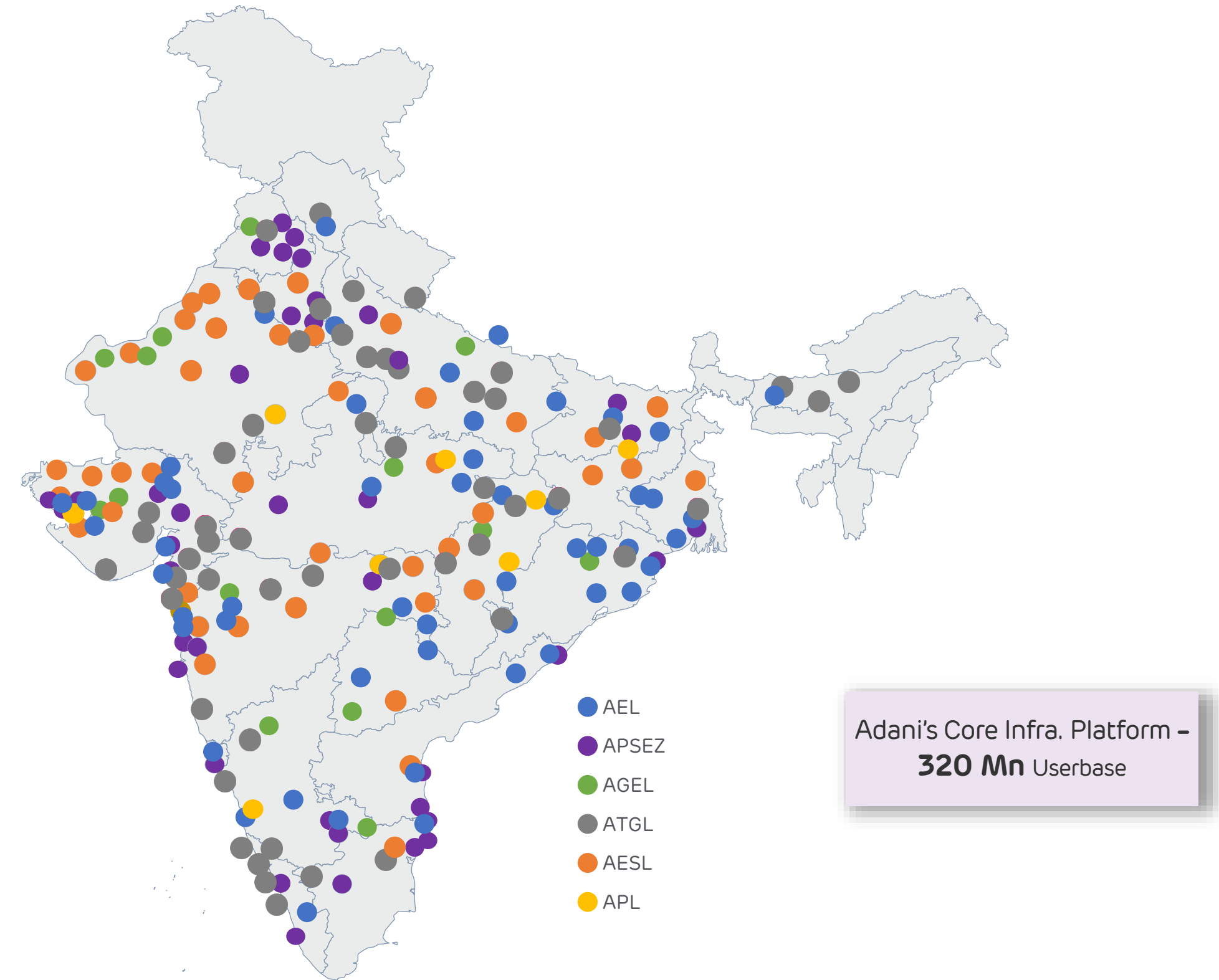
Data as of December 31, 2023. 1. NQXT: North Queensland Export Terminal | 2. ATGL: Adani Total Gas Ltd, JV with Total Energies | 3. Data center, JV with EdgeConnex | 4) Cement business includes 63.2% stake in Ambuja Cement which in turn owns 50.05% in ACC Limited. Adani directly owns 6.65% stake in ACC Limited. Ambuja has completed the acquisition of Sanghi Industries and holds 54.5% stake in Sanghi Industries as on 31st Dec'23. | 5. Includes the manufacturing of Defense and Aerospace Equipment; **AEL**: Adani Enterprise Limited; **APSEZ**: Adani Ports and Special Economic Zone Limited; **AESL**: Adani Energy Solutions Limited; **T&D**: Transmission & Distribution; **APL**: Adani Power Limited; **AGEL**: Adani Green Energy Limited; **AAHL**: Adani Airport Holdings Limited; **ARTL**: Adani Roads Transport Limited; **ANIL**: Adani New Industries Limited; **AWL**: Adani Wilmar Limited; **ADL**: Adani Digital Limited | Note - Purple color represent public traded listed verticals;

# Adani Portfolio: Decades long track record of industry best growth with national footprint

## Secular growth with world leading efficiency

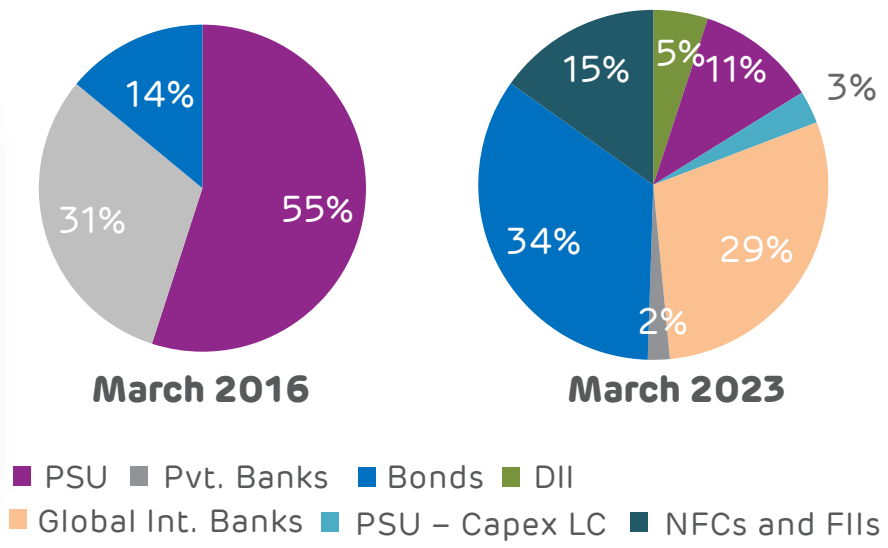
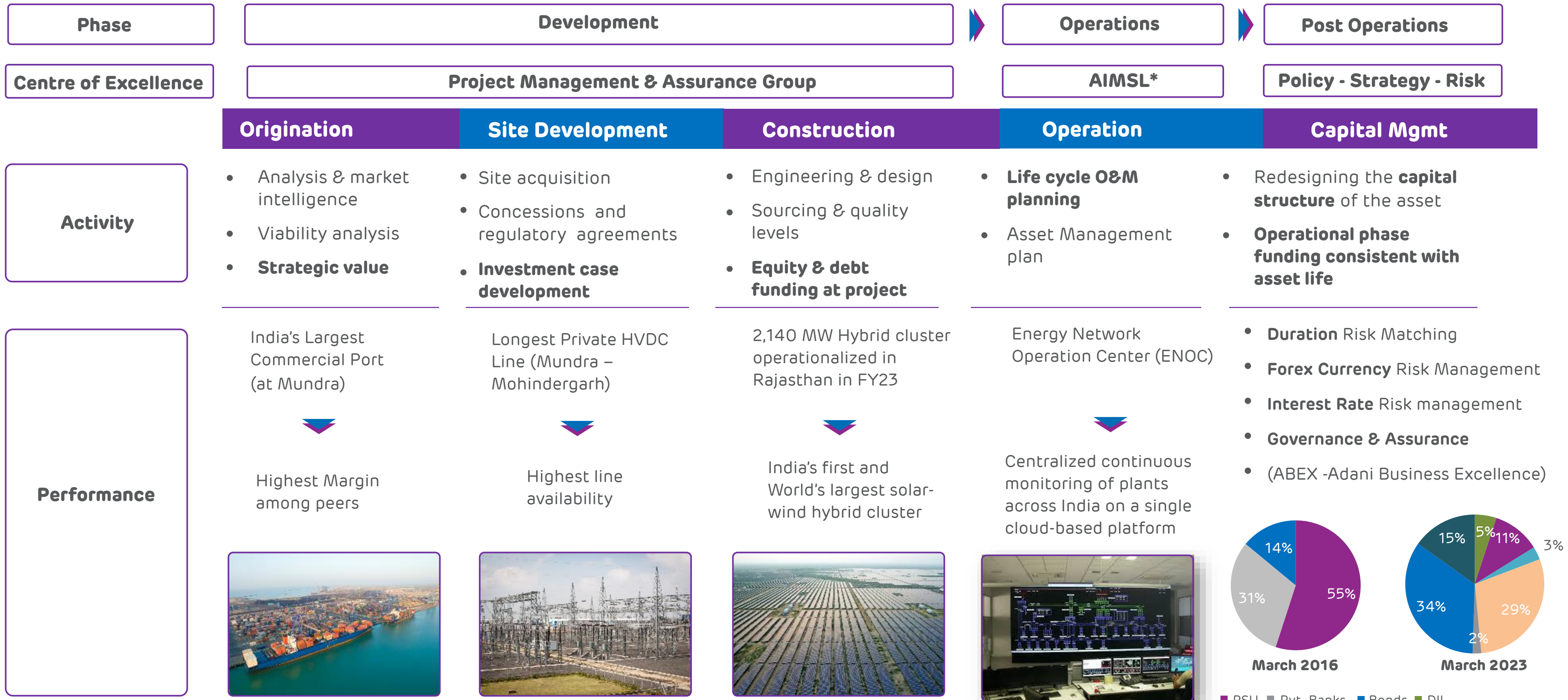


## National footprint with deep coverage



Note: 1. Data for FY23; 2. Margin for Indian ports business only, Excludes forex gains/losses; 3. EBITDA = PBT + Depreciation + Net Finance Costs – Other Income; 4. EBITDA Margin represents EBITDA earned from power supply 5. Operating EBITDA margin of transmission business only, does not include distribution business, PBT- Profit before tax, ATGL-Adani Total Gas Limited, AEL: Adani Enterprises Limited, APSEZ: Adani Ports and Special Economic Zone Limited, AESL: Adani Energy Solutions Limited, APL: Adani Power Limited, AGEL: Adani Green Energy Limited | Growth represents the comparison with respective industry segment. 6. Growth pertains to expansion and development aligned with market growth. Growth of respective Adani portfolio company vs. Industry growth is as follows: APSEZ's cargo volume surged from 113 MMT to 339 MMT (13%) between 2014 and 2023, outpacing the industry's growth from 972 MMT to 1433 MMT (4%). AGEL's operational capacity expanded from 0.3 GW to 8.1 GW (60%) between 2016 and 2023, surpassing the industry's growth from 46 GW to 125 GW (15%). AESL's transmission length increased from 6,950 ckm to 19,779 ckm (16%) between 2016 and 2023, surpassing the industry's growth from 3,41,551 ckm to 4,71,341 ckm (5%). ATGL expanded its geographical areas from 6 to 52 (31%) between 2015 and 2023, outperforming the industry's growth from 62 to 293 (21%).

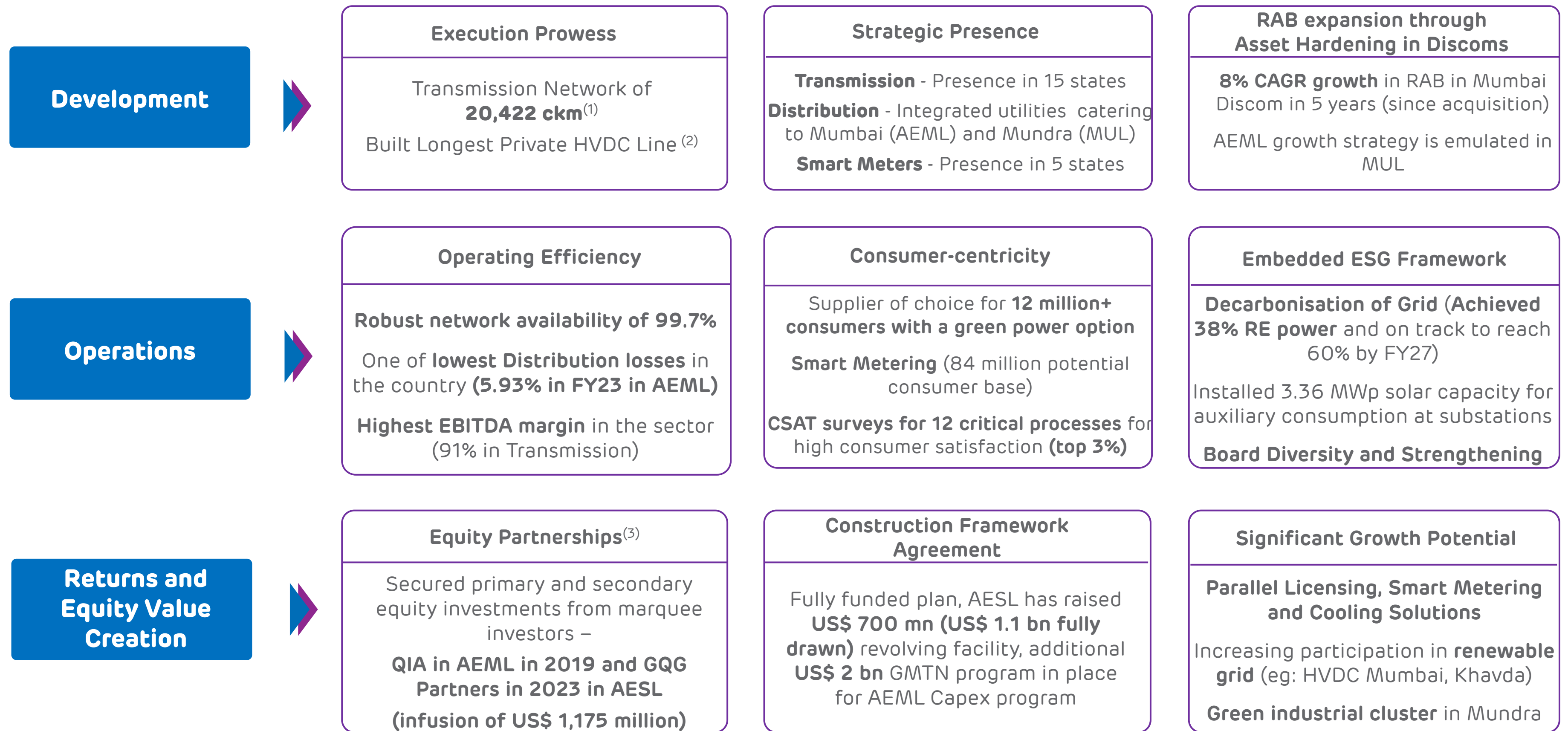
# Adani: Repeatable, robust & proven transformative model of investment



**Notes:** O&M: Operations & Maintenance, HVDC: High voltage, direct current, PSU: Public Sector Undertaking (Public Banks in India), GMTN: Global Medium-Term Notes SLB: Sustainability Linked Bonds, AEML: Adani Electricity Mumbai Ltd. AIMSL: Adani Infra Mgt Services Pvt Ltd, IG: Investment Grade, LC: Letter of Credit, DII: Domestic Institutional Investors, COP26: 2021 United Nations Climate Change Conference; AGEL: Adani Green Energy Ltd; NBFC: Non-Banking Financial Company | \*Adani Environmental Resource Management Services Ltd. (additional company is being proposed)



# AESL: A platform well-positioned to leverage growth opportunities in energy domain



Note: 1) Transmission network is as of December 2023 and includes operational, under-construction assets; 2) HVDC : High voltage direct current – Longest at the time of commissioning, 3) QIA's Investment in AEML: US\$ 452 mn (Rs 32 bn) total investment (US\$ 170 mn of Equity and US\$ 282 mn of shareholder sub-debt), GQG Investment of Rs. 6,014 Cr (US\$ 723 million) for 6.81% stake based on closing price of Rs 1,045.75 dated December 29, 2023

QIA: Qatar Investment Authority, IHC: International Holding Company; TOD Tariff: Time of Day Tariff; AMI: Advanced Metering Infrastructure, MUL: MPSEZ Utilities Limited EBITDA: Earning before interest tax, depreciation & amortization; O&M: Operation and Maintenance, MWp: Megawatt Peak, SS: Sub-station, Ckm: Circuit Kilometer, ESG: Environmental, Social and Governance, ROE :Return on Equity, GMTN: Global Medium Term Note, AEML: Adani Electricity Mumbai Limited; CAGR: Compounded Annual Growth Rate; RE: Renewable Energy; CSAT: Consumer Satisfaction

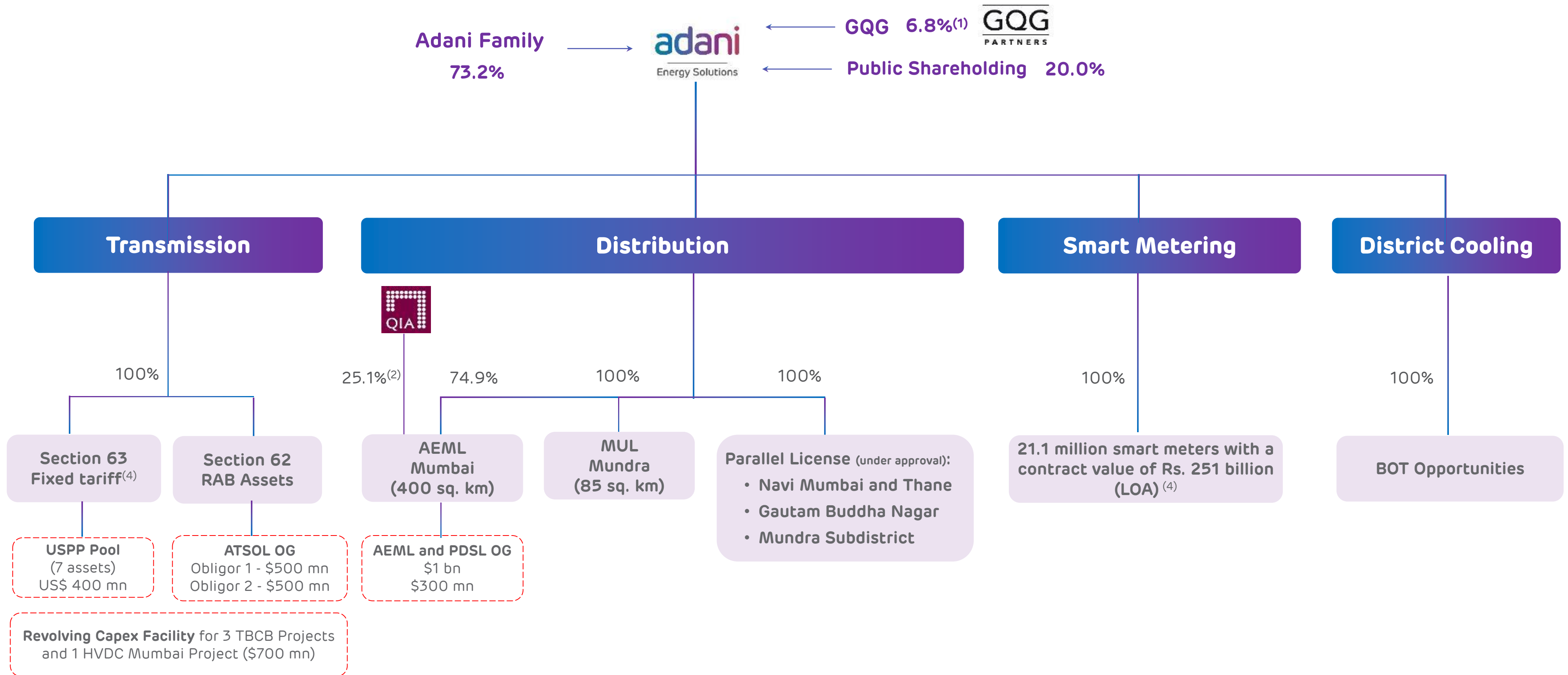
**Adani Energy Solutions Ltd.**  
(formerly known as Adani Transmission Ltd.)



**About AESL**



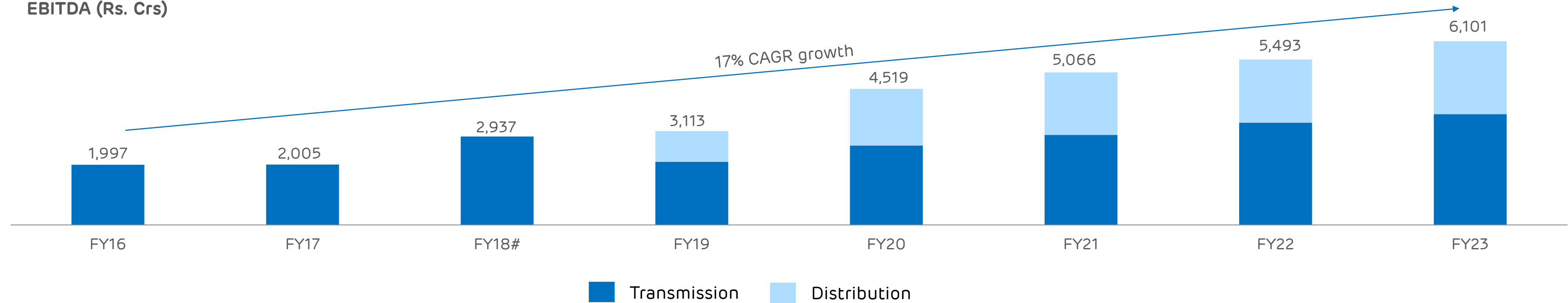
# AESL: Business Snapshot



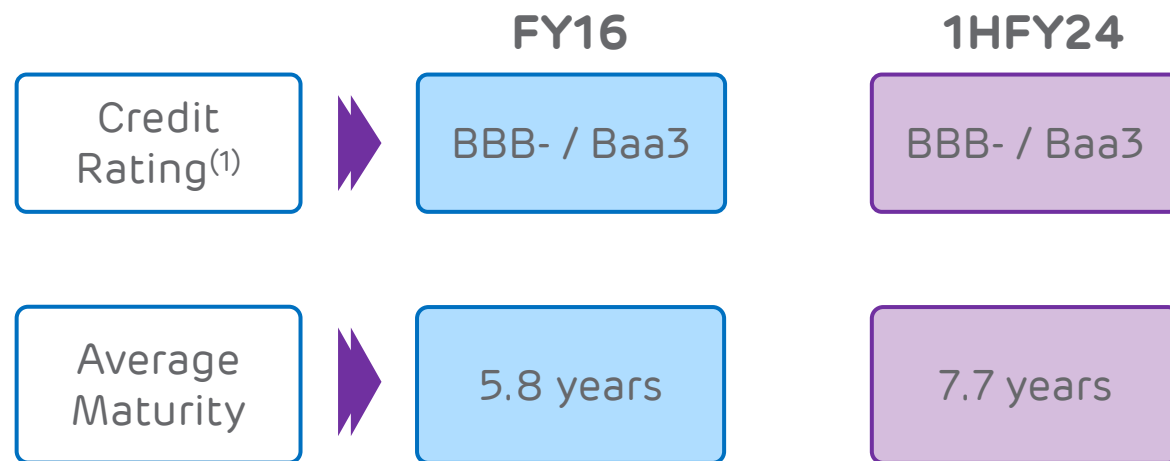
Notes: 1) GQG Investment of Rs. 6,014 Cr (US\$ 723 million) for 6.81% stake based on closing price of Rs 1,045.75 dated December 29, 2023; 2) Primary Equity - QIA's Investment in AEML: US\$ 452 mn (Rs 32 bn) total investment (US\$ 170 mn of Equity and US\$ 282 mn of shareholder sub-debt) for 25.1% stake in AEML; 3) Tariff based competitive bidding (TBCB); 4) Smart Meter Project details: (i) Brihanmumbai Electric Supply & Transport Undertaking (BEST) - 10.8 lakh smart meters (Rs 13 bn) (ii) Assam Power Distribution Company Limited (APDCL) - 7.7 Lakh smart meters (Rs. 8.5 bn) (iii) 3 Andhra Discoms - 31.03 Lakh smart meters (Rs 41 bn) (iv) 2 MSEDCL projects - 115.9 Lakh smart meters (Rs 139 bn), (v) NBPDC - Bihar - 28 lakh smart meters (Rs 31 bn); RAB: Regulatory Asset Base; AEML: Adani Electricity Mumbai Limited; MUL: MPSEZ Utility Limited; AMI: Advanced Metering Infrastructure; HVDC : High voltage direct current, LOA: Letter of Award, LOI: Letter of Intent; Ckm: Circuit Kilometer, SEZ: Special Economic Zone, Sq.Km: Square Kilometer; BOT: Build Own Transfer; BOOM: Build Own Operate Manage

# Transformational Journey with Robust Growth and Credit Discipline

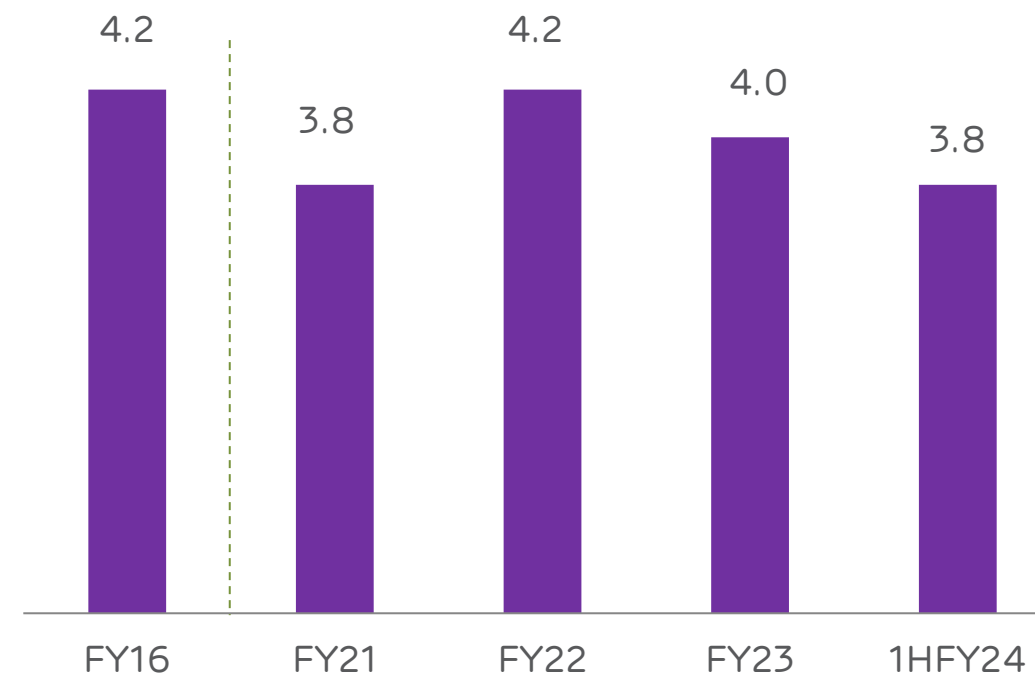
EBITDA (Rs. Crs)



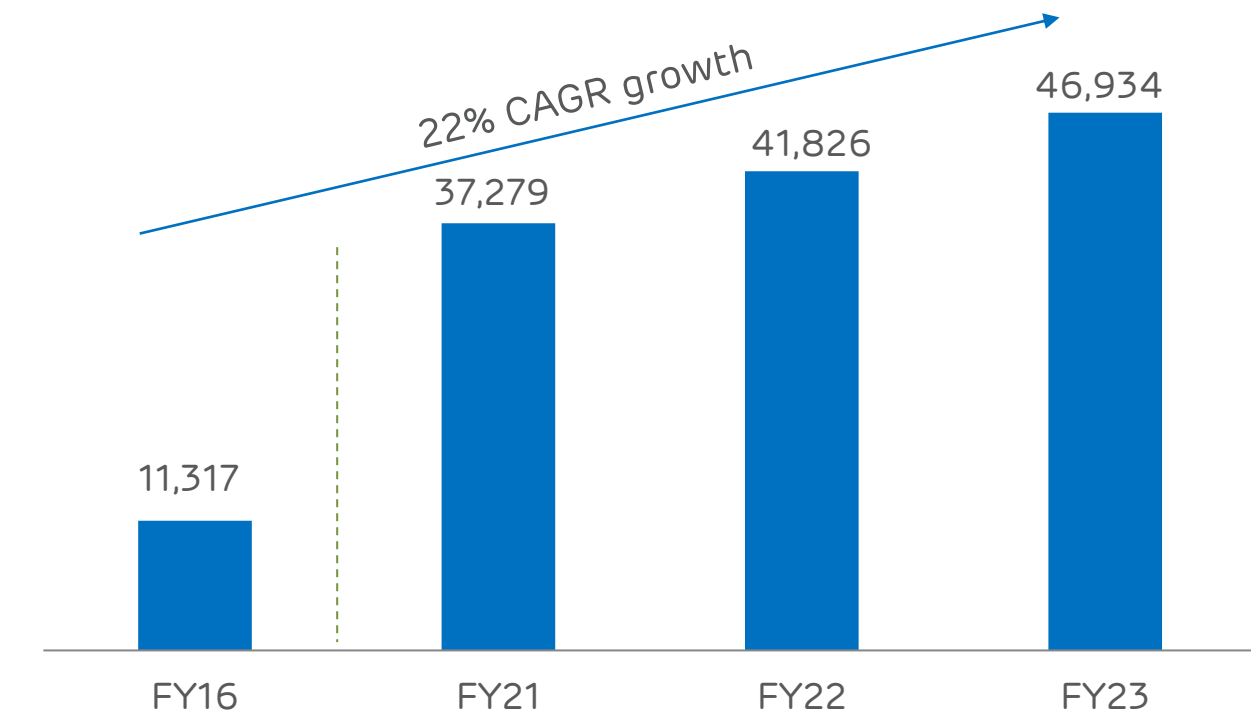
**AESL is Investment grade rated since FY16**



Net Debt to EBITDA<sup>(2)</sup> (x)



Gross Fixed Assets<sup>(3)</sup> (Rs Crs)



Notes: (1) Credit Rating: Fitch / Moody's ratings (2) Net-debt to EBITDA ratio calculation considered only long-term debt at hedge rate and excluded sub debt; (3) Gross Fixed Assets: Fixed Assets includes Property, Plant & Equipment, Right of Use Assets, Capital Work in Progress, Goodwill & Other Intangible Assets; EBITDA : Earning before interest tax and depreciation, CAGR: Compounded Annual Growth Rate; #Includes one-time income of Rs. 873 Crores recognised during the year based on CERC order



# AESL and AEML Credit Ratings

## International – ATSOL Obligor Group (Transmission business) (Reg S/ 144A)

Rating Agency	Facility	Rating/Outlook
Fitch	Dollar Bond	BBB-/Stable
Moody's	Dollar Bond	Baa3/Stable

## International – AESL USPP (Transmission business) (Reg D)

Rating Agency	Facility	Rating/Outlook
Fitch	Dollar Bond	BBB-/Stable
Moody's	Dollar Bond	Baa3/Stable

## International – AEML US\$ 1 bn (Reg S/144A) and US\$ 300 mn GMTN (Distribution business)

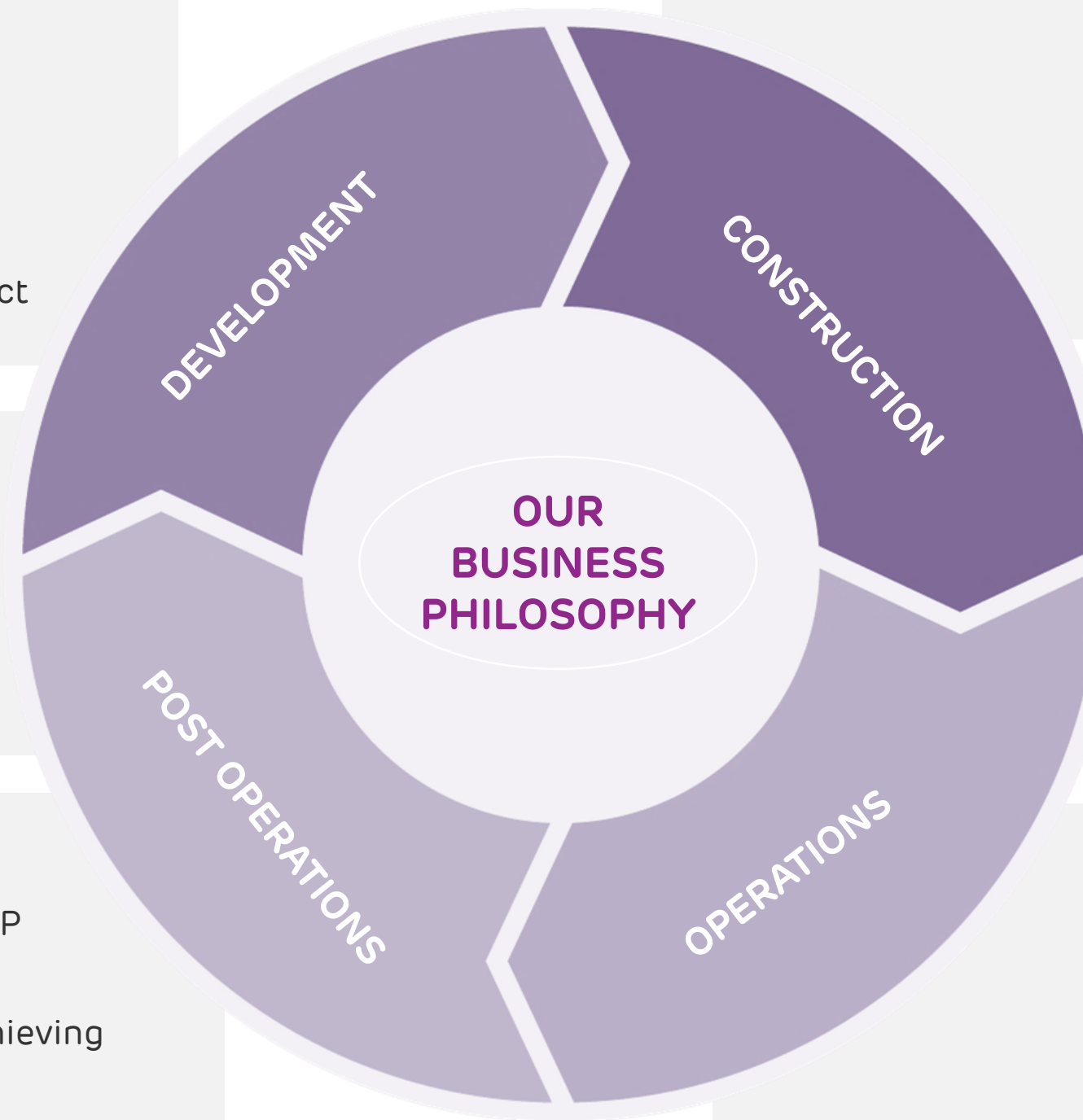
Rating Agency	Facility	Rating/Outlook
Fitch	Dollar Bond (for both)	BBB-
S&P	Dollar Bond (US\$ 1 bn)	BBB-/Stable
Moody's	Dollar Bond (for both)	Baa3/Stable

## SPV Ratings - Domestic

Company	Rating Agency	Rating	Outlook
AESL	India Ratings	AA+	Negative
AESL	ICRA	A1+	Stable
MEGPTCL	India Ratings	AA+	Negative
ATIL	India Ratings	AA+	Negative
WTGL	India Ratings	AAA	Stable
WTPL	India Ratings	AA+	Stable
MTSCL	India Ratings	AA-	Stable
ATSCL	CARE	A	Stable
ATBSPL	India Ratings	AA	Stable
FBTL	CARE	AA	Stable
OBTL	CARE	A	Stable
AEML	India Ratings / CRISIL	AA+	Stable
JKTL	India Ratings	A-	Stable
WKTL	India Ratings	A-	Stable
Alipurduar	India Ratings	AAA	Stable
ATSOL	India Ratings	AA+	Negative

# Business Philosophy focusing on De-risking at every stage of project lifecycle

## DE-RISKING AT EVERY STAGE



### Route Identification & Survey

- **Route alignment** on topographic maps to optimize route & identify key parameters
- Utilization of Drones for route survey
- **Robust site diligence and route planning** to minimize project cost and ROW issues

### Project Planning & Scheduling

- **Robust Pre bid estimation** of ROW, Project Cost and Timelines resulting in **assurity of returns**
- **Solid vendor management** and strong relationships adds to business sustainability and **avoid cost escalations**

### Capital Management

- **Takeout of construction debt** post commissioning (eg: USPP issuance)
- Maintained international **investment grade rating** while achieving impressive growth

### Project Execution

- **Complex projects experience:** Completed HVDC project (~1000 kms) in a record time of 24 months
- Contracting methodology focused on derisking – competitively awarded on **fixed price & fixed time basis**
- Availability of large talent pool and in-house capabilities

### Construction Finance

- Derisked financing through **fully-funded plan**
- Revolving Construction facility of US\$ 700mn for transmission and GMTN program of US\$2 bn for AEML
- LC facility to reduce financing cost & optimize funding schedule

### Tech Enabled Operations

- Life cycle O&M planning
- Reliability centered Maintenance
- **Remote operation of sub-stations** and integration with Energy Network Operating Centre

## DE-RISKING AT EVERY STAGE



# Project Management & Assurance Group (PMAG) - End to End Project Integration



Strength: Team of 90 professionals having hands-on experience of 2,000+ man-years of complete project management cycle of small, medium & large projects

Bidding Stage	Project Development	Project Execution	Project Close Out
<ul style="list-style-type: none"> <li>Integrating &amp; providing cross functional support for Bidding Process</li> <li>Site Location Assessment, coordinating for field visits</li> <li>Bid stage scope finalization &amp; technology adoption with engineering</li> <li>Bid Stage Cost Estimates</li> <li>In case of M&amp;A's, collaborating and assessment of asset</li> </ul>	<ul style="list-style-type: none"> <li>Collaborates for Technology finalization &amp; Scope</li> <li>Execution Strategy</li> <li>Contracting Strategy</li> <li>Detailed Project Report</li> <li>Coordinating for connectivity &amp; evacuation</li> <li>Level 1 Project Schedule</li> <li>Capex Budgets and Estimates</li> <li>Risk Assessment &amp; plan</li> <li>Procurement Planning</li> <li>Financial Closure Plans</li> </ul>	<ul style="list-style-type: none"> <li>Integrated L3 Project Schedule</li> <li>Baselining Cost and Resource plans</li> <li>Issue &amp; Risk Management</li> <li>Supply Chain Management and Contract Administration</li> <li>Contractor &amp; Vendor Management</li> <li>Change Management</li> <li>Monitoring Approvals , Permits &amp; Licenses</li> <li>Managing Lenders &amp; LIE interface</li> <li>Cash Flow Management</li> <li>Project Monitoring &amp; Control</li> <li>Mid Course Corrections ( Catch up)</li> </ul>	<ul style="list-style-type: none"> <li>Facilitating the Handover &amp; punch list closure</li> <li>Contract Closures</li> <li>Close Out Report</li> <li>Material Reconciliation</li> <li>Spares Handover</li> <li>Closure of LIE and Lender Reports</li> <li>Stakeholder Recognition</li> <li>Finalizing the Final Costs</li> <li>Ensuring built as per Drawings</li> </ul>



**Strong Project Controls**



**Collaborating & Convergence**

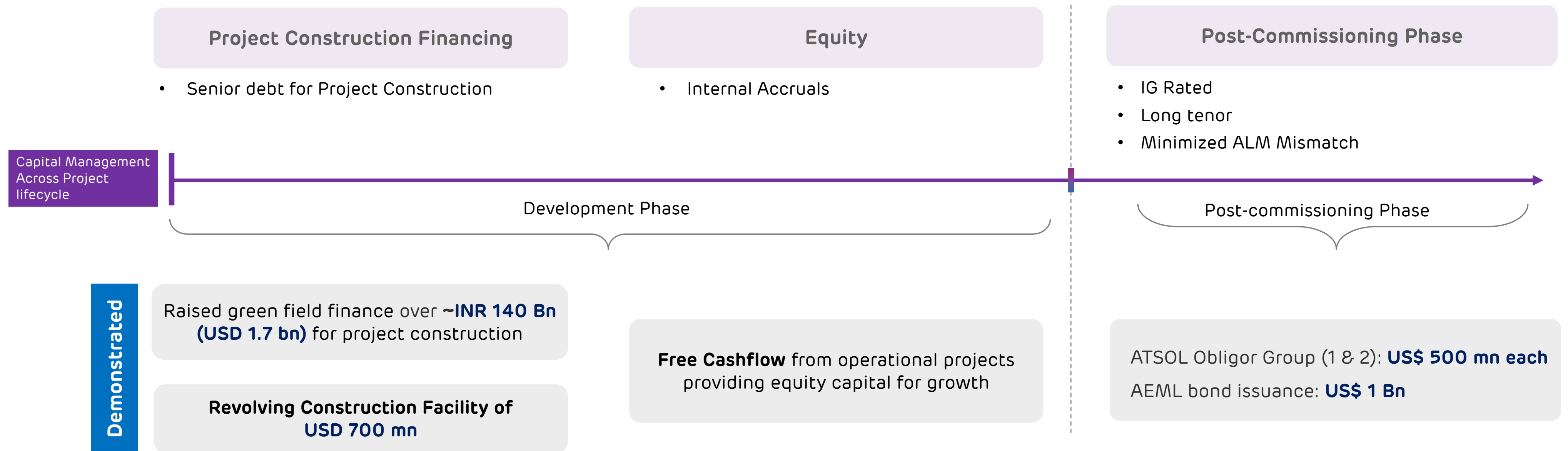


**Effective Project Delivery**

# Capital Management Philosophy to achieve growth at scale with capital discipline

## AESL is the only private sector transmission and distribution company in India with International IG Rating

- Long life contracted assets with sovereign counterparties in a stable regulatory regime (Transmission: 35-year concession, Distribution: Perpetual life)
- Capital structure designed through debt financing at longer tenure matching concession life and terms akin to stable assets



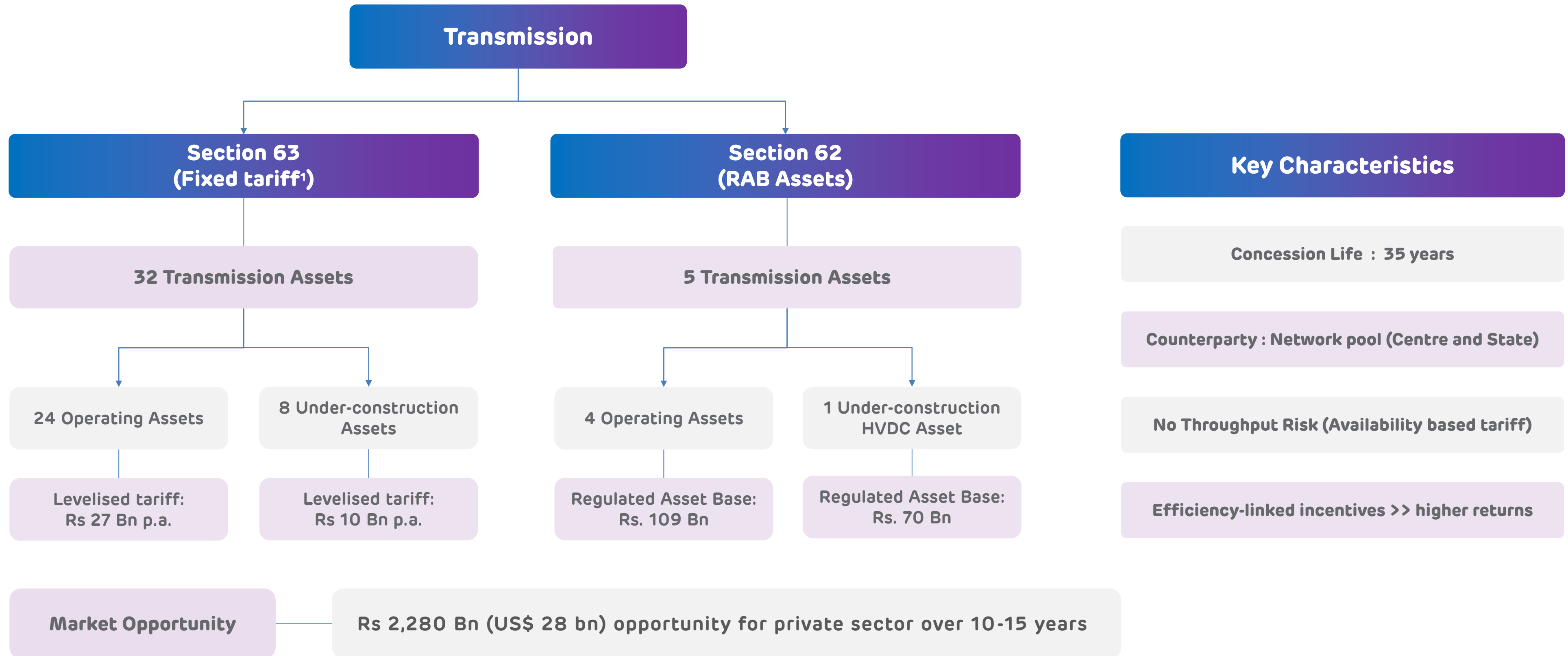




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Energy Solutions

**Transmission**

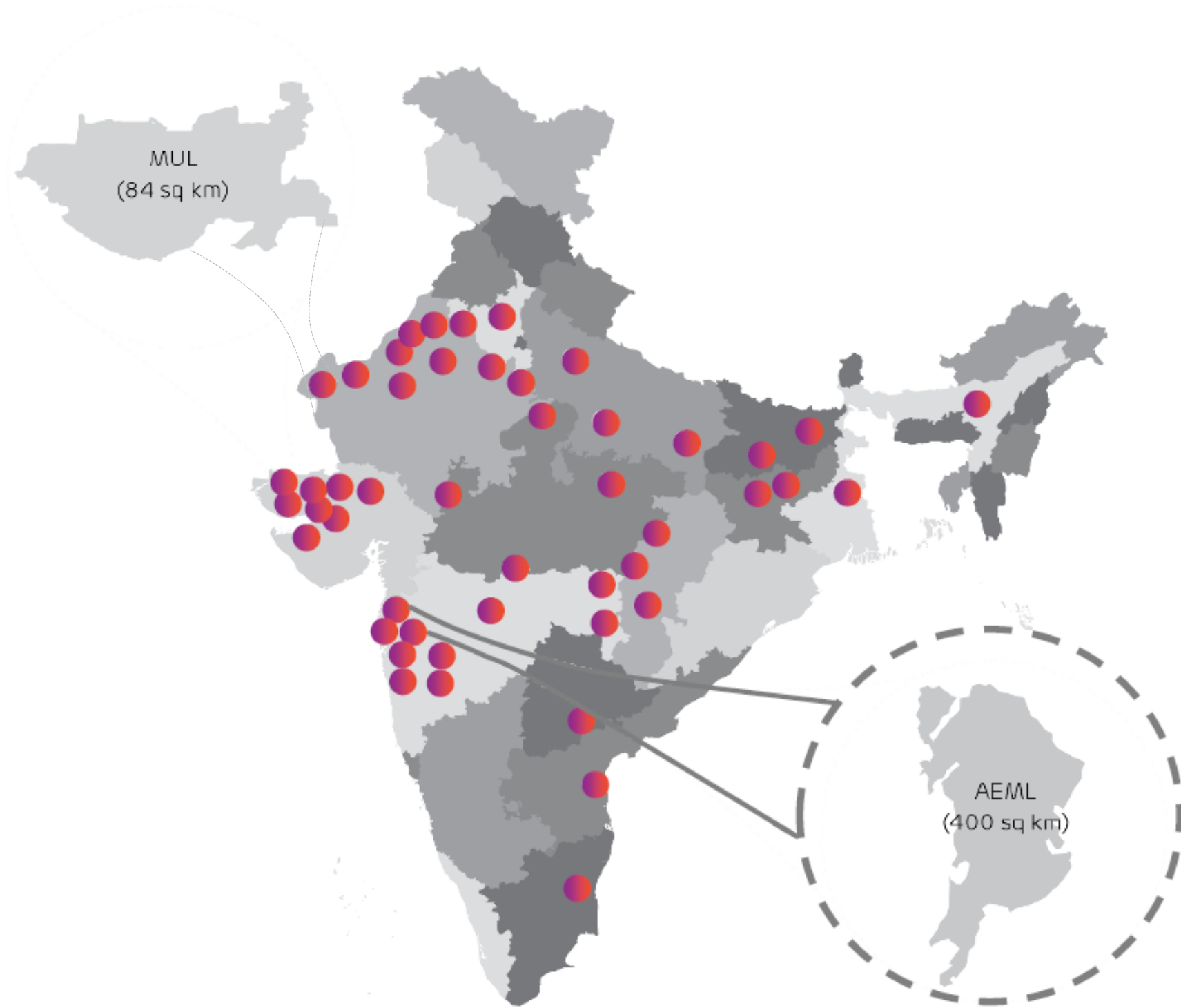




Notes: 1) Tariff based competitive bidding (TBCB); RAB: Regulatory Asset Base, p.a.: per annum; HVDC: High Voltage Direct Current



# Asset Portfolio – Presence Across the Country



#Map not to scale

MEGPTCL: Maharashtra Eastern Grid Power Transmission Company Limited; ATIL: Adani Transmission (India) Limited; ATSCS: Aravali Transmission Service Company LTD.; MTSCS: Maru Transmission Service Company LTD.; WTGL: Western Transmission (Gujarat) LTD.; WTPL: Western Transco Power LTD.; AEML: Adani Electricity Mumbai Limited; STL: Sipat Transmission Limited; RRWTL: Raipur Rajnandgaon-Warora Transmission Limited; CWRTL: Chhattisgarh-WR Transmission Limited; ATRL: Adani Transmission (Rajasthan) Limited; HPTSL: Hadoti Power Transmission Limited; BPTSL: Barmer Power Transmission Limited; TPTSL: Thar Power Transmission Limited; ALTL: Alipurduar Transmission Ltd.; GTL: Ghatampur Transmission Limited; FBTL: Fatehgarh Bhadla Transmission Ltd; BKTL: Bikaner Khetri Transmission Limited; ATBPSL: Adani Transmission Bikaner Sikar Private Limited; OBTL: Obra- C Badaun Transmission Limited; WRSS\_XXIA: WRSS XXI(A) Transco Limited; LBTL: Lakadia Banaskantha Transco Limited ; JKTL: Jam Khambaliya Transco Limited; MUL: MPSEZ Utility Limited; NKTL: North Karanpura Transco Limited; KVTL: Kharghar Vikroli Transmission Limited; WKTL: Warora Kurnool Transmission Ltd.; AEMIL: Adani Electricity Mumbai Infra Limited; MP II: MP Power Transmission Package II Ltd; KHAVDA: Khavda Transmission Ltd.; KARUR: Karur Transmission Ltd.; \*Out of 3,290 ckm, 983 ckm was operationalized in 9MFY24 and WKTL, KVTL, KTL, and KBTL (partial) were commissioned

No	Operational	Ckt Kms
1	MEGPTCL	1,217
2	ATIL (3 lines)	3,834
3	ATSCS	97
4	MTSCS	300
5	WTGL	974
6	WTPL	2,089
7	AEML	572
8	STL	348
9	RRWTL	611
10	CWRTL	434
11	ATRL	278
12	HPTSL	116
13	BPTSL	133
14	TPTSL	164
15	ALTL	650
16	GTL	897
17	FBTL	292
18	BKTL	481
19	ATBPSL	343

20	OBTL	630
21	WRSS_XXIA	295
22	LBTL	351
23	JKTL	37
24	MUL	151
25	WKTL	1756
26	KTL	9
27	KVTL	74
<b>Subtotal (A)</b>		<b>17,133</b>

No	Under construction	Ckt Kms
28	NKTL <sup>(1)</sup>	304
29	AEMIL (HVDC)	80
30	MP II	1,087
31	Khavda Bhuj (KBTL)	217
32	WRSR	630
33	Khavda II Part A	355
34	KPS - 1	42
35	Sangod Trans	15
36	Khavda Ph-III Part-A	560
37	KPS – 1 (Augmentation)	---
<b>Subtotal (B)*</b>		<b>3,290</b>
<b>Total (A+B)</b>		<b>20,422</b>

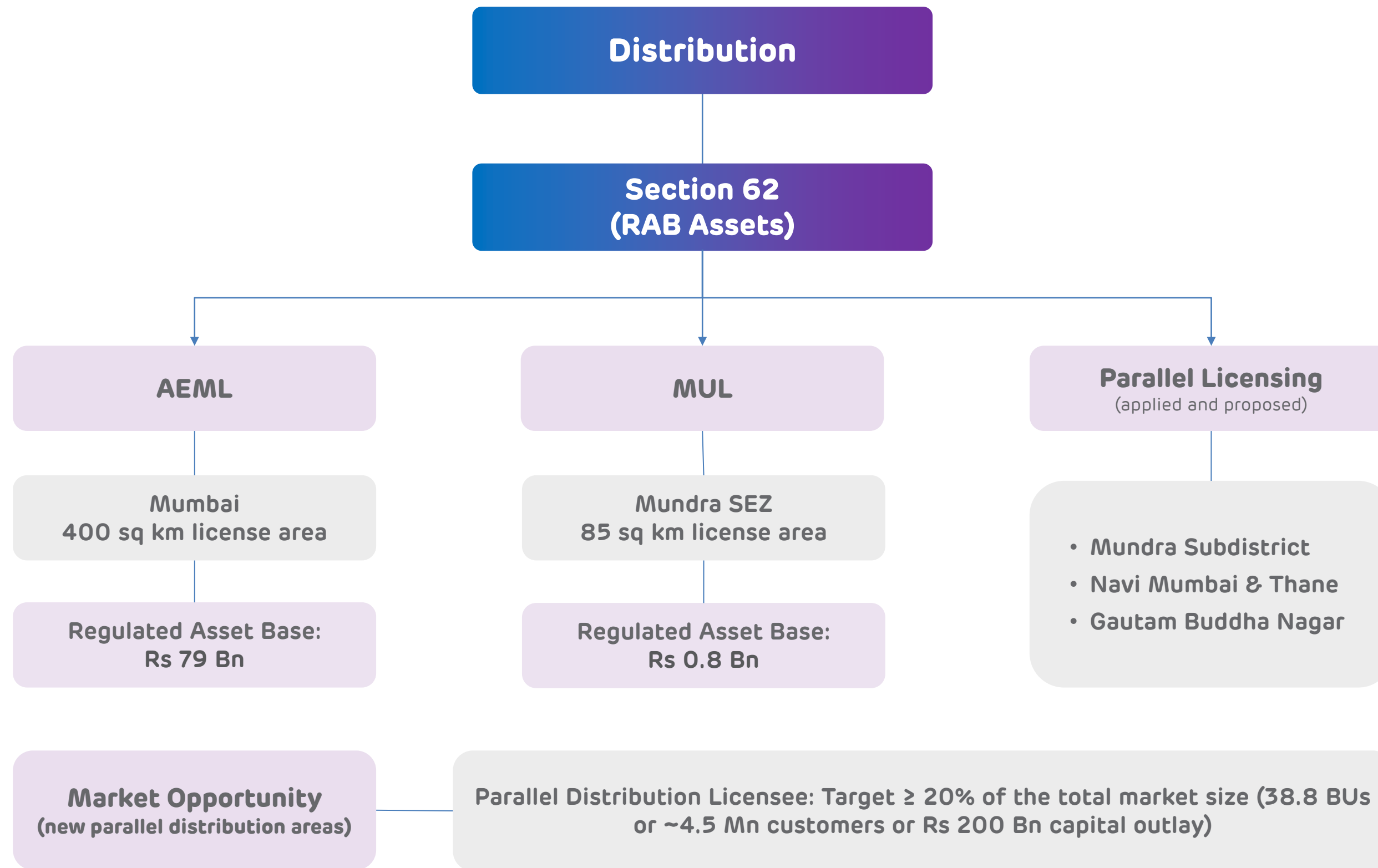
\*Out of 3,290 ckm, 983 ckm was operationalized in 9M FY24 and WKTL, KVTL, KTL, and KBTL (partial) were commissioned





# Distribution



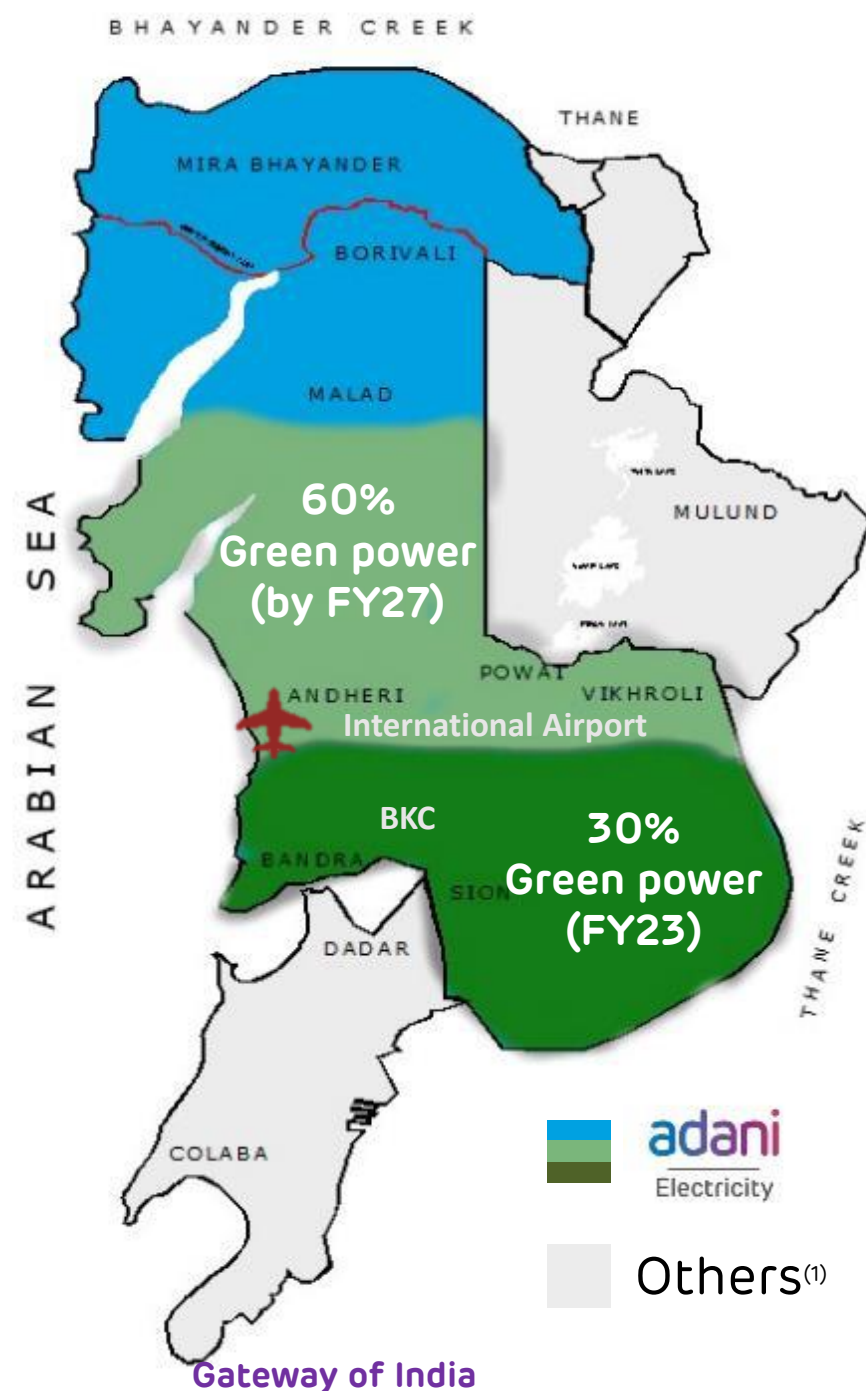


## Key Characteristics

- License period: 25-year and perpetual business
- Counterparty: Pool of 12 Mn+ consumers
- No throughput risk (RAB based returns)
- O&M costs are pass-through

# AEML Distribution: India's No. 1 power utility, as per MoP, McKinsey, PFC (Scored 99.6/100)

## Largest Integrated utility in India's Commercial Capital - Mumbai



### About Mumbai

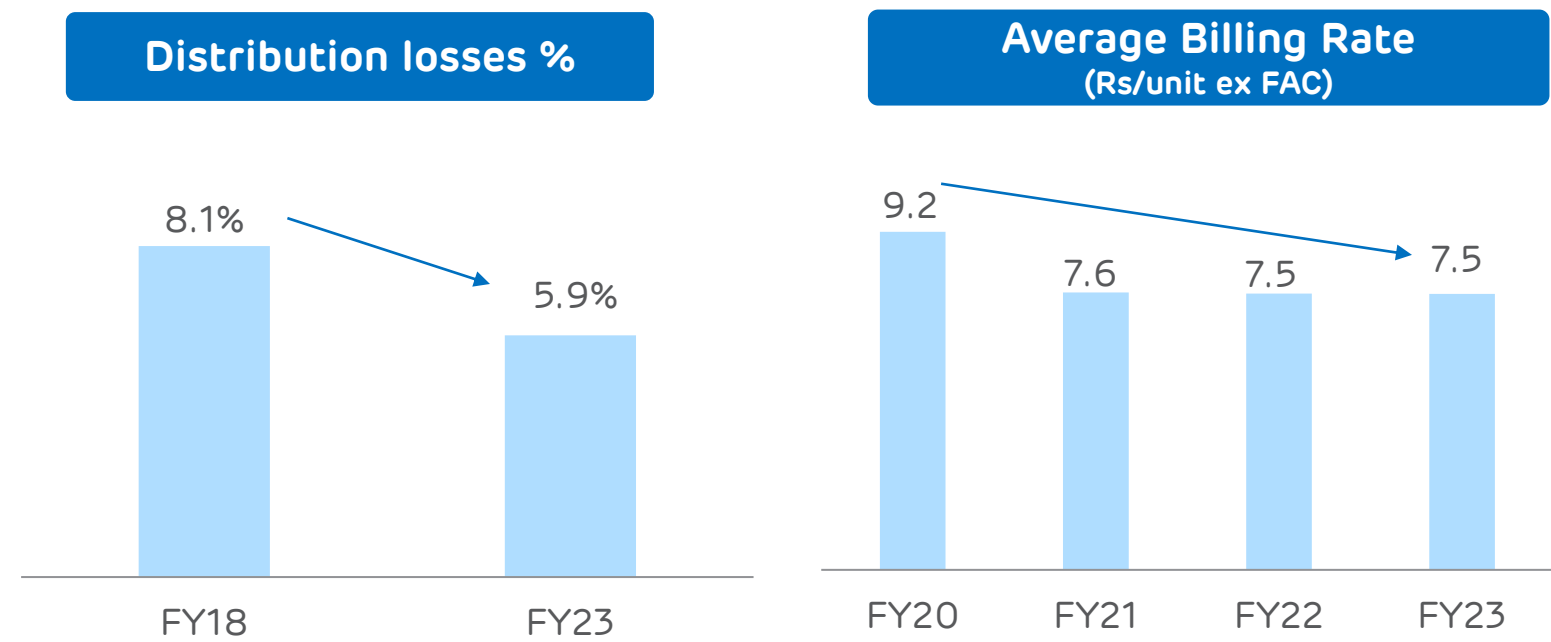
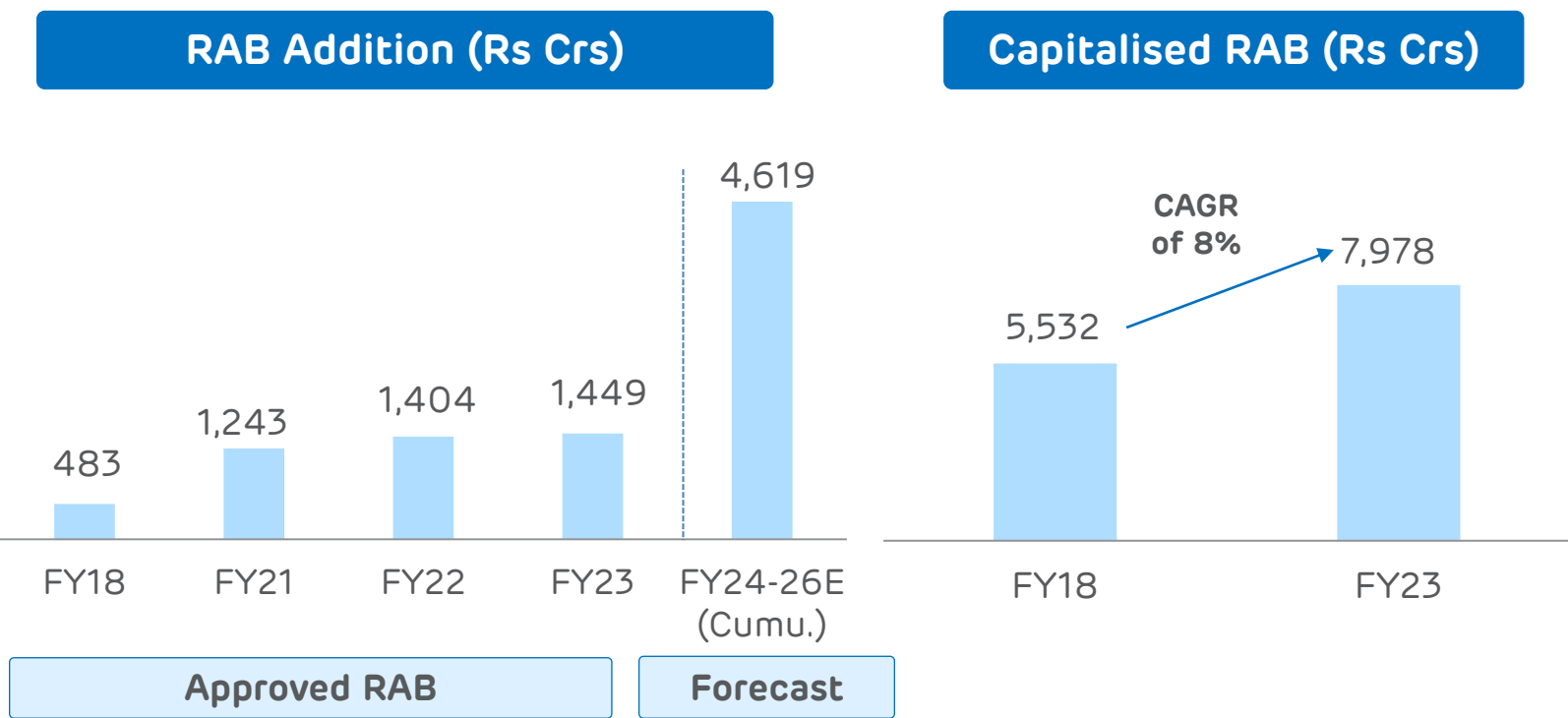
- 8<sup>th</sup> Most Populous City in World
- 25<sup>th</sup> Richest City in world based on GDP (US\$)

### Mumbai Consumers

- 2.2x Per capita income of India
- Rs 3,28,000 Per capita income of Mumbai (FY20)
- Rs 36,000 Avg Annual Electricity Bill of AEML Consumer
- ~6% Average electricity bill as % of per capita income

- Servicing 85% of Mumbai, touching 2/3 households of Mumbai
- One of the largest mega city in the world to achieve 30% renewable power

## AEML – Key Milestones Since Acquisition



Capex-led growth in Regulated Asset Base to drive growth in returns (Rs. 46 Bn over FY24-26)

**Note:-** 1) Others include BEST, MSEDCCL & Tata Power; 2) Source – Population Of Mumbai 2020 (Demographic, Facts, etc.) – India Population 2020  
 MoP: Ministry of Power; PFC: Power Finance Corporation; BKC – Bandra Kurla Complex, MW- Mega Watt, GDP: Gross Domestic Product; CAGR: Compound Annual Growth Rate, RAB: Regulatory Assets Base; FAC: Fuel Adjustment Charges; Map not to scale



# MPSEZ Utilities Limited (MUL): Overview

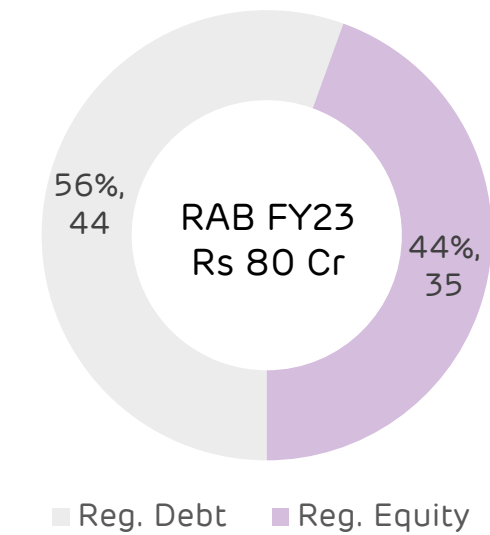
**Mundra SEZ is strategically located with well developed supporting infrastructure serving as an attractive industrial hub**



- Electricity Distribution for Mundra SEZ area
- Catering primarily to commercial and industrial consumers
- Section 62 (RAB Based) asset governed by Gujarat Electricity Regulatory Commission
- 151 ckm of distribution network

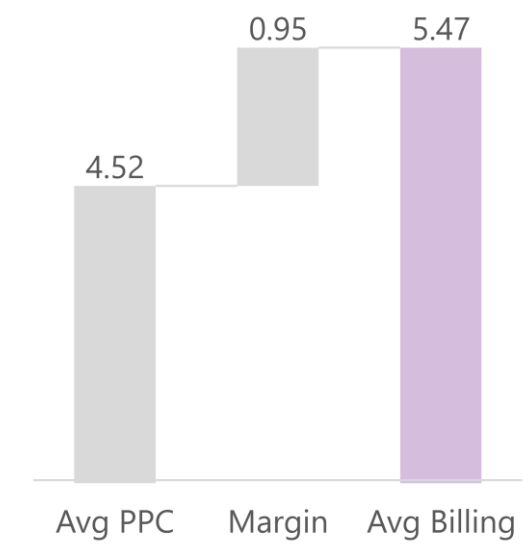
- Mundra SEZ is India's largest multi-product SEZ **spread across 85 sq km**
- Mundra port is **India's largest private commercial port** with capacity to handle cargo of ~264 MMT
- SEZ also has a huge land bank reserve for large-scale industries in future
- Given the large industry cluster opportunity in Mundra SEZ area and the accompanying expected growth in power demand, AESL is well placed to grow the MUL business

**RAB<sup>(1,2)</sup> (Rs Cr)**

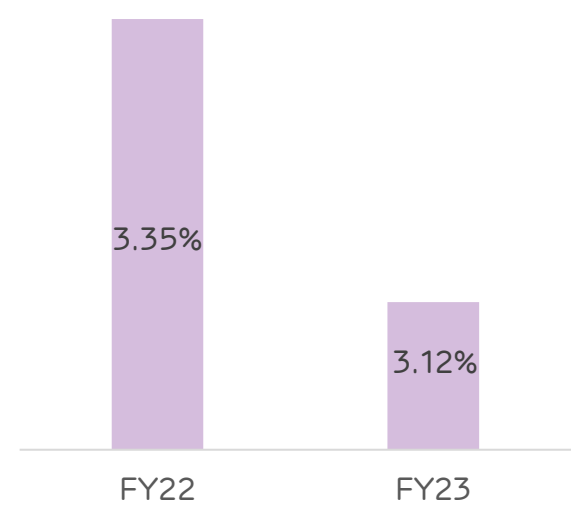


**Avg Billing Rate (Rs/ unit)**

Power Sale of 289 MUs in FY23

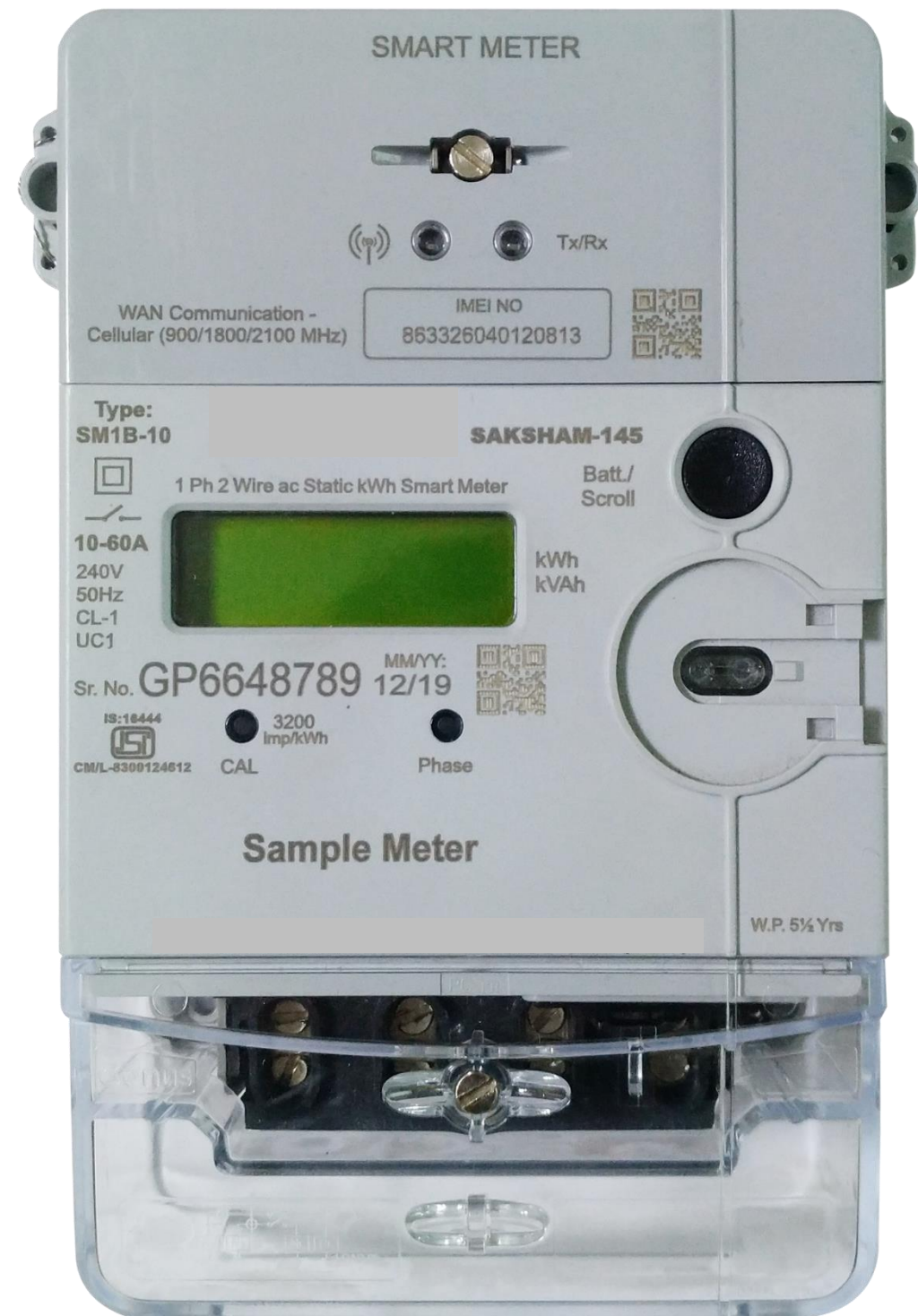


**Dist. Loss (%)**



MUL's existing load of MUL is ~80MW, which is expected to grow multifold due to new investments in copper, petrochemicals and solar manufacturing & ancillary industries in the Mundra region

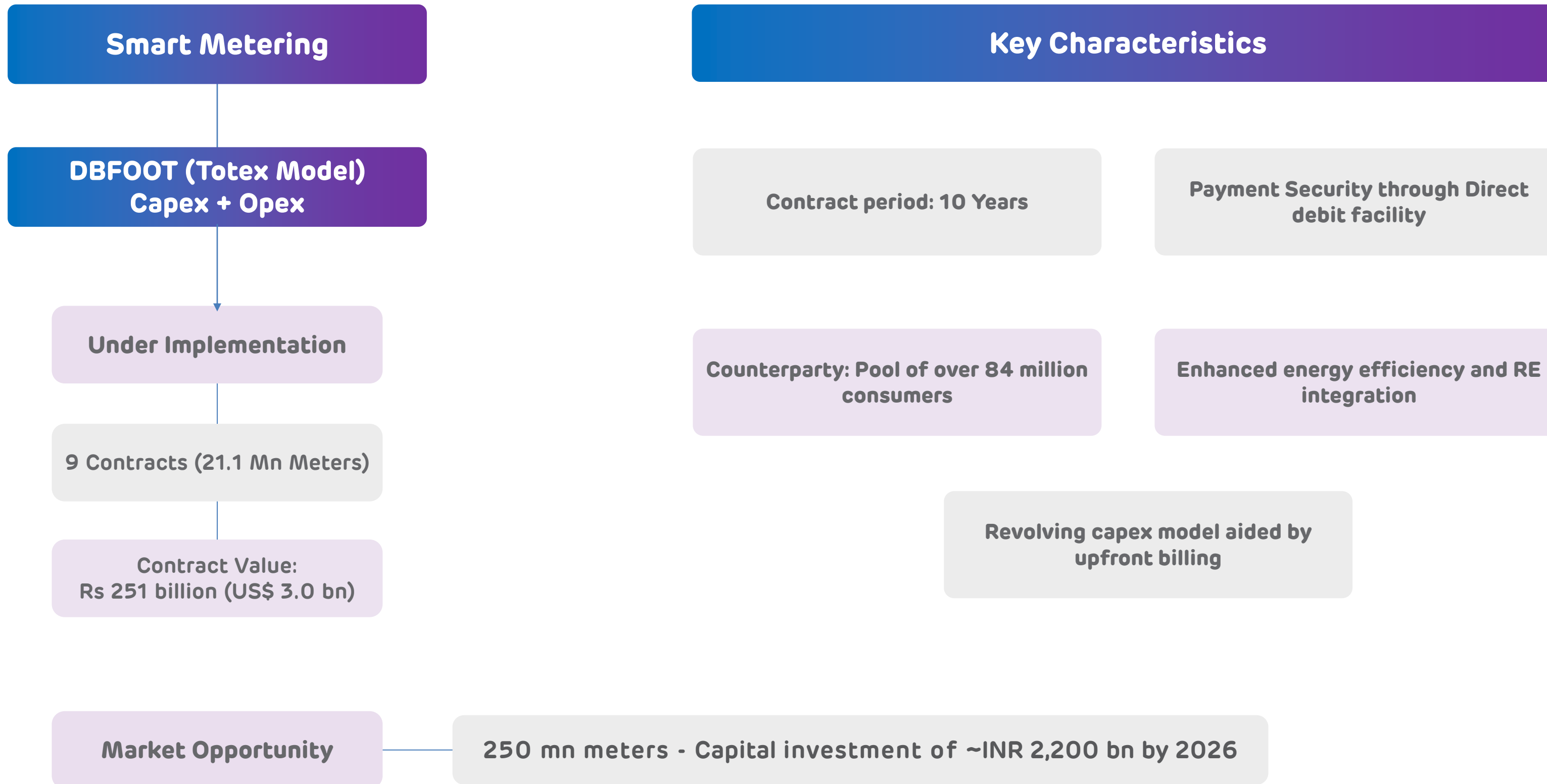
Note: 1) As per Tariff Petition for FY23 and True-up Order for 2020-21; 2) Normative level as per FY23 tariff order; 3) MUL signed a co-developer agreement with APSEZ providing it a deemed licensee status from 2011 for the SEZ license area valid till 2036  
MUL: MPSEZ Utilities Limited; AESL: Adani Energy Solutions Ltd.; MMT: Million Metric Tons; SEZ: Special Economic Zone; MU: Million Units Mn: Million, RAB: Regulated Asset Base; PPC: Power Purchase Cost; GW: Giga watts; Map not to scale



# Smart Metering



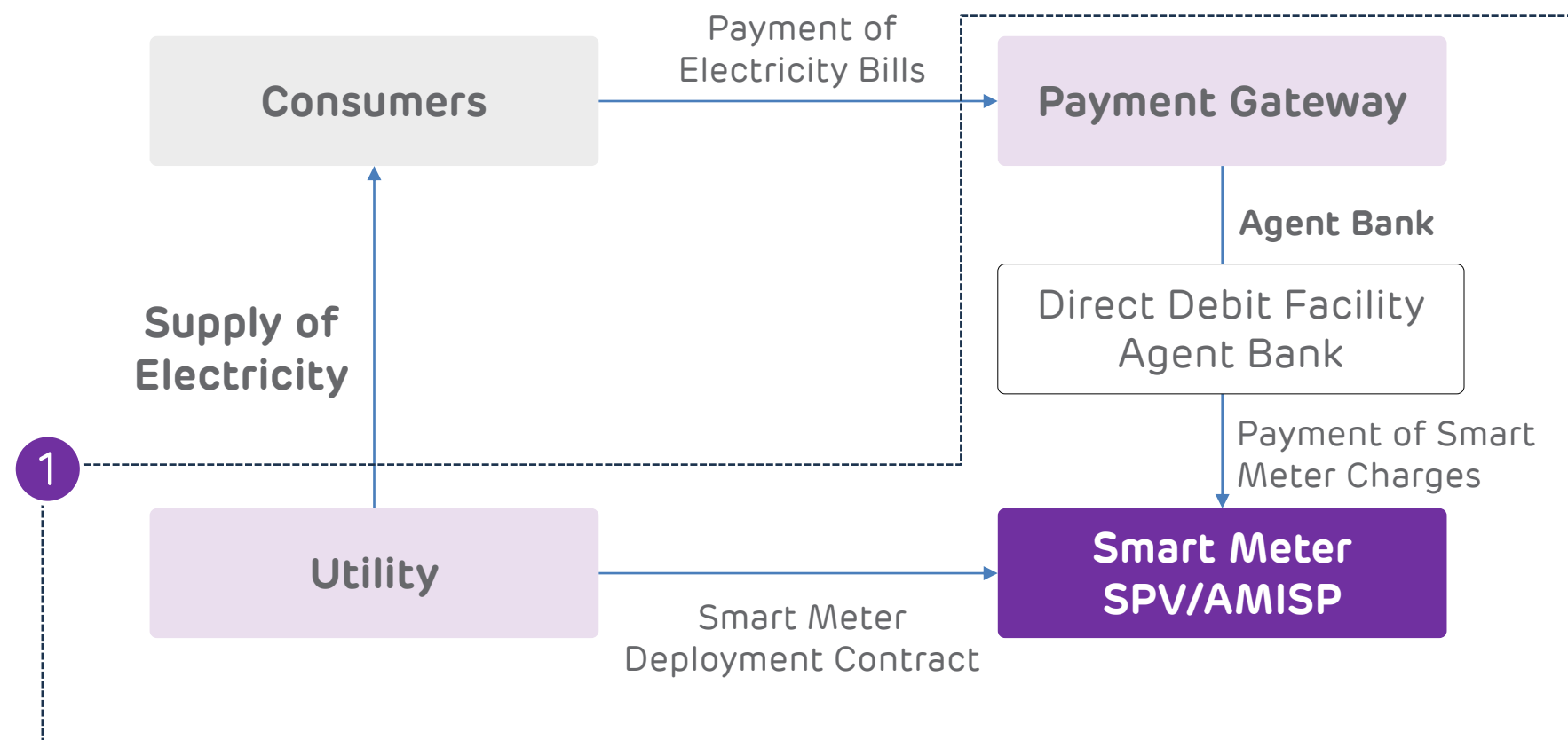
# Smart Metering Business



Note: LOA: Letter of Award; Selected as preferred bidder, contract under negotiation; DBFOOT: Design, Build, Finance, Own, Operate, Transfer; RE: Renewable Energy; Contract smart meters (million): Maharashtra (BEST) – 1.1 mn, Assam – 0.8 mn, Andhra – 3.1 mn, Maharashtra (MSEDCL): 11.6 mn, Bihar: 2.84

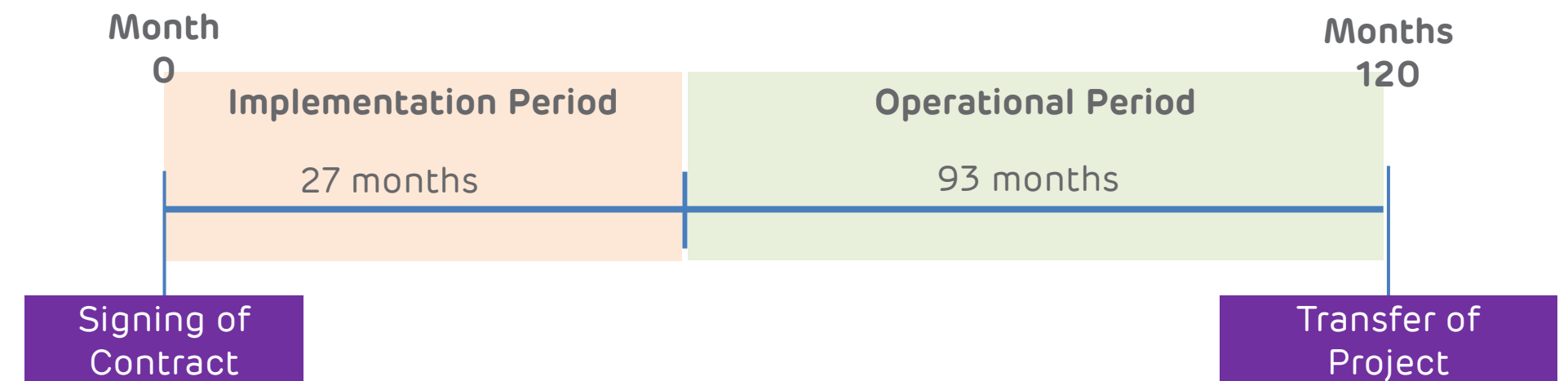
# Smart Metering Contractual Framework

## Flow of Revenue for Smart Meter SPV



- Assured Revenue for Smart Meter Implementing Agency;
- Pass through Expense under s.62 of electricity Act for Utility
- Ultimately recovered from the consumer

## Contract For Advanced Metering Infrastructure Service Provider (AMISP)



- Revenue inflows immediately on Operational Go live
- Operational Go Live: 5% of the Smart Meters being operational
- Revenue charged is based on Total Meter Months

### 1 Payment Security Mechanism through Direct Debit Facility Agreement (DDF)

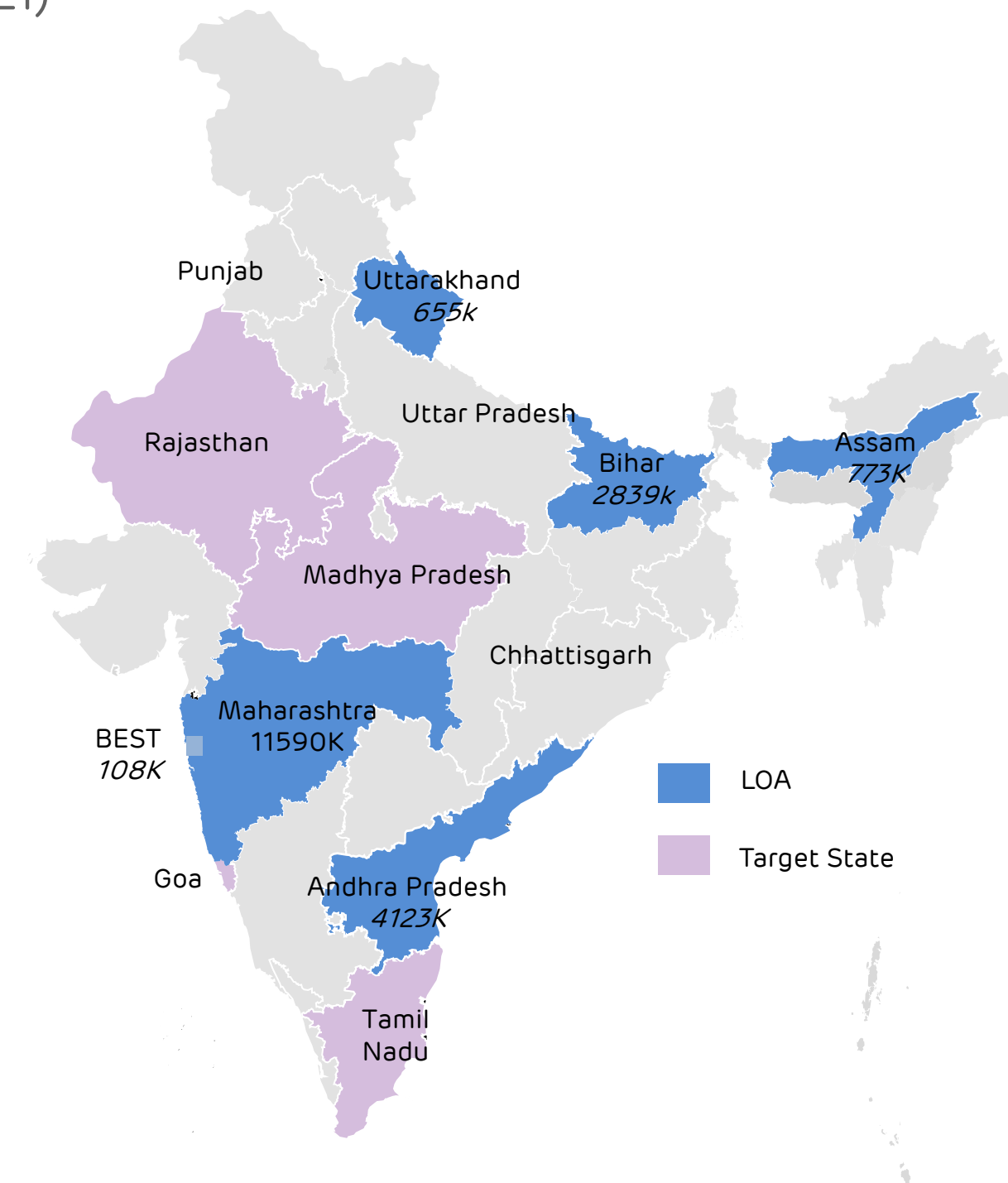
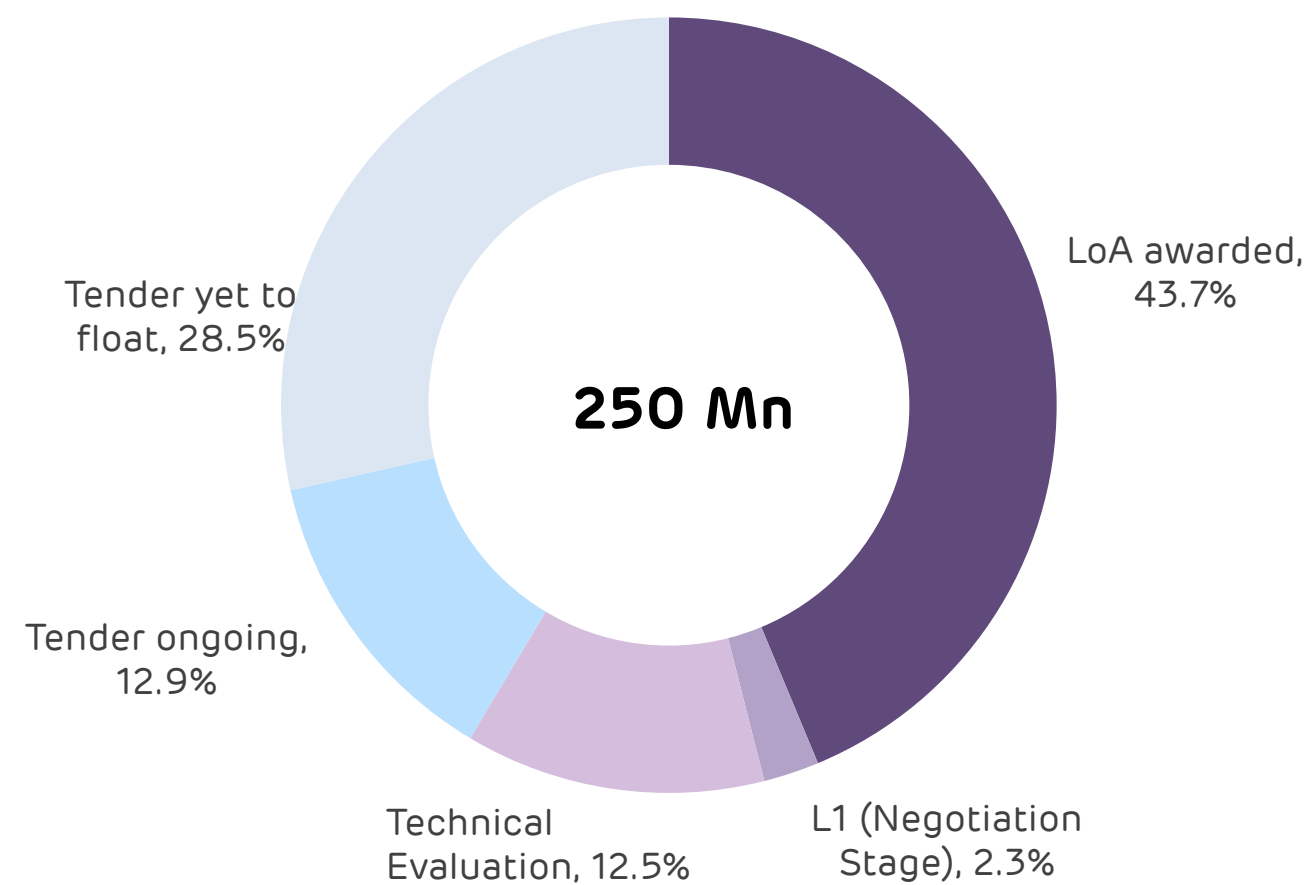
- A Quadripartite agreement → governs all payments due to AMISP
- Agreement uniform to all discoms, finalized by REC being the Nodal Agency
- Direct Debit facility include bucket filling approach → all consumer bill payments will be routed through this account
- Irrevocable and Standing instruction to Agent Bank to directly pay to Smart Meter SPV from DDF account.



# Market Dynamics: Smart Metering Business

- 109 Mn Smart Meters awarded so far (LOA), and 6 Mn are at negotiation stage (L1)
- Untapped market of – 135 Mn Smart meters

**Total Smart Meters**



**AESL has an LOA for 21.1 Mn smart meter qty. with an order value of Rs 251 billion (US\$ 3 bn)**

## AESL's Core Strengths and Available Synergies:

Distribution & Smart Metering Experience | Expanding Distribution business across India | Pan India presence



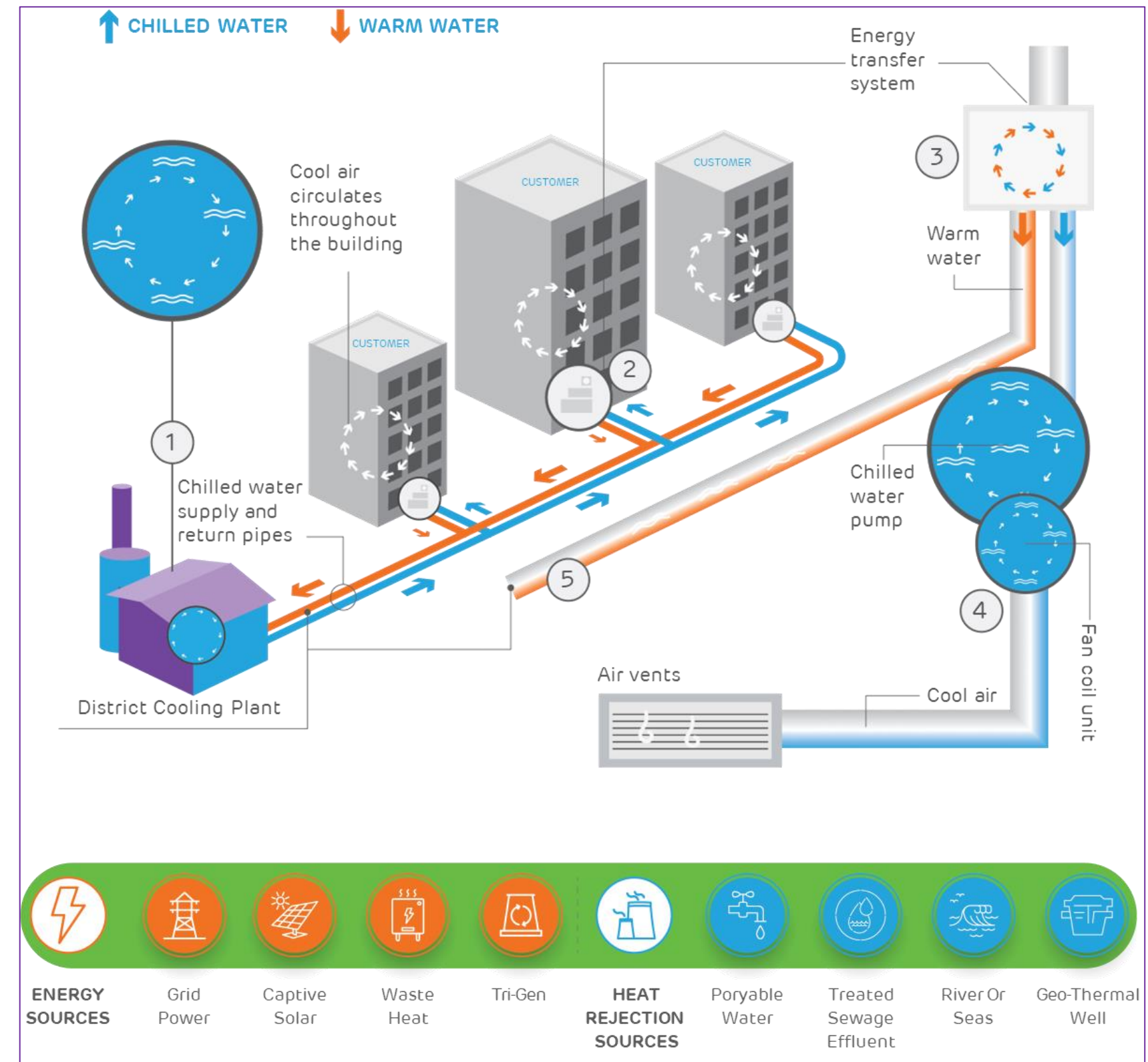
# District Cooling



# District Cooling Business – Snapshot

The District Cooling System (DCS) produces chilled water in a central plant and distributes cooling capacity in the form of chilled water from the central plant to multiple buildings through a network of underground pipes for use in space and process cooling.

- 1 A central cooling plant produces chilled water by using eco-friendly refrigerants
- 2 This chilled water is transported to the customer buildings through a network of insulated water carrying pipes.
- 3 Energy Transfer Station (ETS) facilitates the heat transfer between the high-side chilled water circuit and low side (building) chilled water circuit with plate type heat exchanger to cool the building-side water.
- 4 The cold low side chilled water circulates through fan coil units and cools the hot air which is blown over the cooling coil in the fan coil unit, to produce an air-conditioning environment, which is predictable and efficient.
- 5 The warmer water from the ETS is returned to the central plant for re-cooling and recycling.



# District Cooling Business - a centralized, energy-efficient and low carbon cooling solution to drive sustainability in cooling sector

## BUSINESS RATIONALE

<p><b>Large Addressable Market and Existing Synergies</b></p>	<ul style="list-style-type: none"> <li>– Opportunity to unlock potential in nation-wide Infrastructure (airports, data centers, SEZs, reality space)</li> <li>– Limited competition and presence</li> </ul>
<p><b>Demographic and economic trends to drive cooling demand</b></p>	<ul style="list-style-type: none"> <li>– India's cooling demand projected to grow by 8 times in the next 20 years</li> <li>– Rising per capita income, urbanization coupled with growing AC ownership to drive the growth</li> </ul>
<p><b>DCS demand to be driven by four key segments</b></p>	<ul style="list-style-type: none"> <li>– Airports, Industrial Cooling, Commercial Real Estate and Data Centers are the primary segments which will drive the demand</li> </ul>
<p><b>Integrated Utility Offering</b></p>	<ul style="list-style-type: none"> <li>– Offer DCS under Cooling as a service model (DBFOT)</li> <li>– Integrated solution with tailormade power sourcing from grid, wholesale or captive sources</li> </ul>
<p><b>ESG Integration</b></p>	<ul style="list-style-type: none"> <li>– Sustainable Cooling Solution for a Low Carbon Future (15-25% lower emissions)</li> <li>– Contribute to India's net zero target by 2070</li> </ul>

## TRADITIONAL VS DISTRICT COOLING

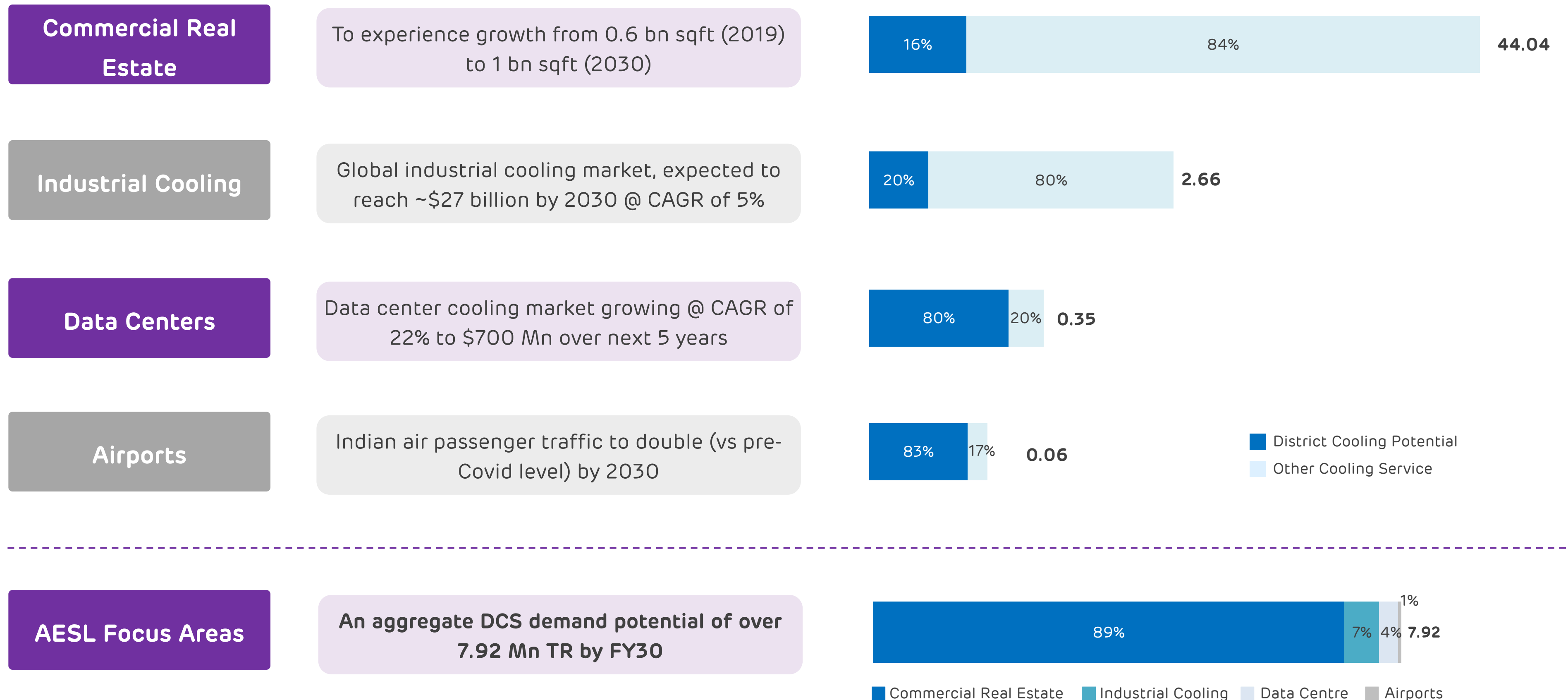


Sources: CEA, ICAP, IEA, World Economic Forum, Statista, Daikin, NRDC, Praxis, CREDAI/CBRE, Adani Connex, Boeing, Internal analysis, DCS: District Cooling System; ESG: Environment, Social & Governance; SEZ: Special Economic Zones



# Four key segments to drive India's DCS demand

Cumulative Cooling Demand from key segments by FY30<sup>(1)</sup> (in Mn TR)



Sources: Cooling India, ICAP, Praxis, CREDAI/CBRE, CEA, IEA, EIA, Adani Connex, Boeing, Internal analysis; Notes: 1) Cum. Cooling demand (new) and DCS market potential is considered from FY 24-25 onwards; TR: A ton of refrigeration; CAGR: Compounded Annual Growth Rate



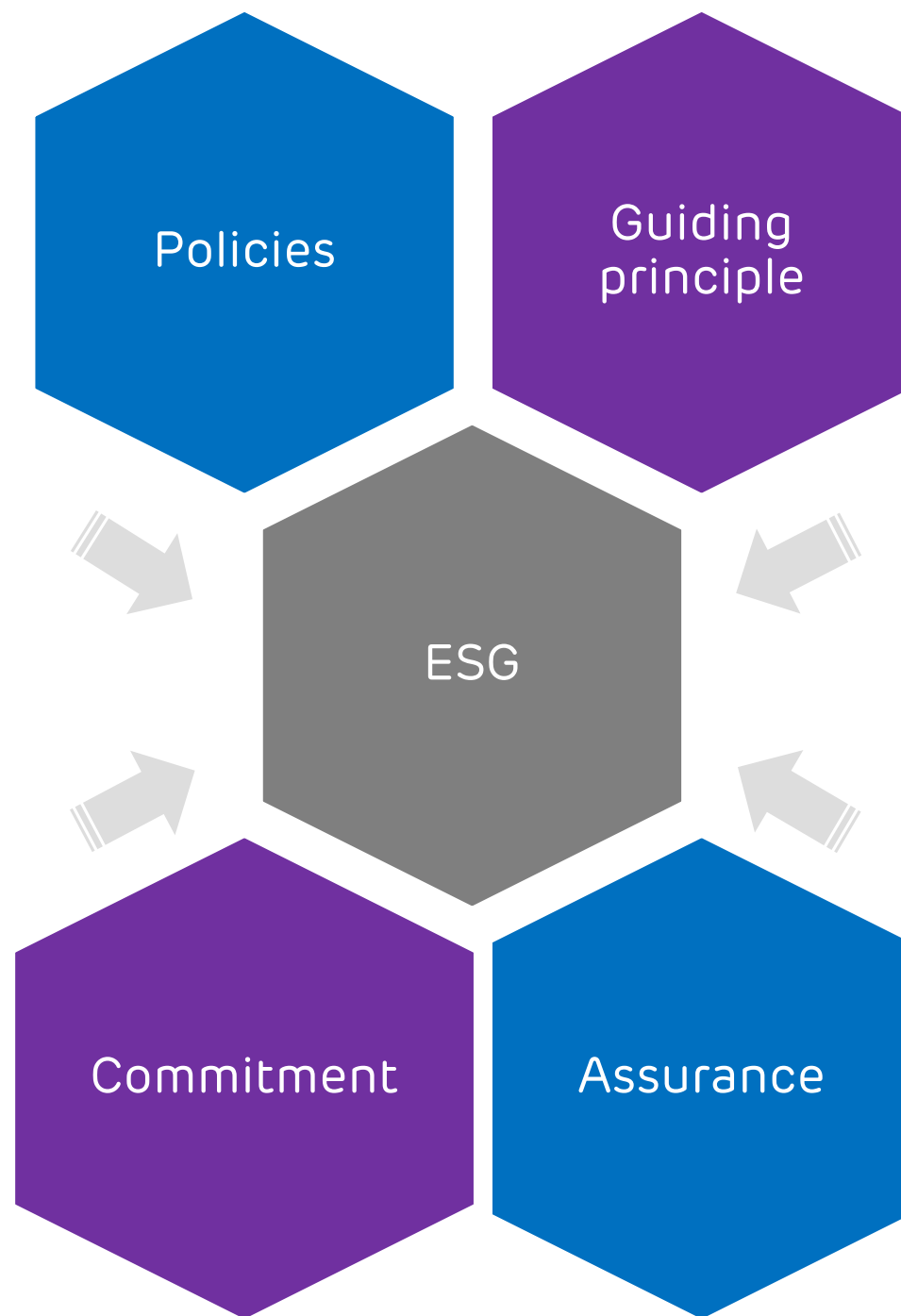


Growth with **Goodness**

**ESG Framework and Investment Case**



# Assurance backed ESG framework



## Guiding principles

- United Nations Global Compact
- UN Sustainable Development Goals
- India Business & Biodiversity Initiative (IBBI)
- SLB Principles
- IFC E&S Performance Standards

## Disclosure Standards

- TCFD
- TNFD
- GRI Standards
- CDP disclosure
- BRSR
- GHG Protocol

## Policy Structure

- E**
  - Environment & Energy as part of IMS policy
  - Biodiversity Policy
  - Energy Management System
- S**
  - Guidelines on Human Rights
  - Corporate Social Responsibility Policy
  - Occupational Health & Safety as part of IMS Policy
- G**
  - Board Diversity
  - Code of Conduct
  - Related Party Transaction Policy

## Focus Area - UNSDGs

- 7 AFFORDABLE AND CLEAN ENERGY**
- 11 SUSTAINABLE CITIES AND COMMUNITIES**
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
- 13 CLIMATE ACTION**

# Transforming through Green Energy Adoption



- AESL's pledge to 'Net Zero by 2050' to limiting the global temperature rise to 1.5°C with no or limited temperature overshoot.
- With interim ABSOLUTE GHG emissions targets:
  - Reduce 72.7% Scope (1 + 2) by FY 2032
  - Reduce 27.5% Scope 3 by FY 2031

- Green tariff and certificates for Mumbai customers choosing green energy options
- AEML is actively working towards goals:
  - Renewable energy : 60% by FY27, 70% by FY30 from 30% in FY23
  - GHG intensity [tCO2e/EBITA]: FY30 48.5% < FY19 from 38% in FY23
- AESL is developing an HVDC Transmission link for continuous supply of renewable power to Mumbai with commitment of \$1 billion (already commissioned 400 KV Kharghar Vikhroli line of 1000 MW)





## ESG Commitments

- To be in Top 10 companies of the world in ESG benchmarking of electric utility sector by FY25
- To purchase RE power at AEML 60% by FY27 (committed under SLB framework) & 70% RE sources by FY2030
- To reduce Emission intensity [tCO2e/ EBITA] @ AEML by 40% by FY25, 50% by FY27 & 70% by FY2030 [w.r.t baseline FY19](#)
- To remain Single-use-Plastic-Free (SuPF) company
- To remain Zero-Waste-to-Landfill (ZWL) company
- To retain Water Positive status for the company
- To achieve No Net Loss of biodiversity on ongoing basis
- To complete ESG Evaluation and engage all Tier-1 critical suppliers through GHG Suppliers' Engagement Program for decarbonization of value chain by FY26

## Targets

Indicator	FY25 Target	FY23 Target	Status: FY23
Ranking in Global ESG benchmarking of electric utility sector	Top 10	NA	Top 40 in Electric Utilities sector - Sustainalytics/ ISS ESG
Water positive sites	100%	100%	100%
Zero waste to landfill operating sites	100%	100%	100%
Single use plastic free operating sites	100%	100%	100%
No Net Loss of biodiversity	100%	NA	Ongoing

# ESG Ratings, Awards and Recognition

ESG Commitments	
ESG Ratings	AESL's Rating
	Ranking of <b>86%</b> , with consistent ranking above <u>Electric &amp; Gas Utilities</u> industry average [911 companies]
	ESG Risk Rating of ' <b>Medium Risk</b> ' with a score of <b>25.3</b> in February 2024 (improved from High Risk - 32.8 in April 2023), better than global Electric Utility Industry average of 31.6; Part of Global Top 20 in Electric Utility Industry
<b>DJSI-S&amp;P Global Corporate Sustainability Assessment</b>	S&P CSA 2023: <b>Scored 62#/ 100, one of the best in Indian Electric Utility sector</b> and significantly better than average World Electric Utility score of 34/100
	ESG Rating of ' <b>BBB</b> '
	FTSE reaffirms AESL as a constituent of <b>FTSE4Good index series with an improvement in ESG score from 3.3 to 4</b> . Also, AESL's Governance score stands at 5/5, Social score of 4/5 & Environment score 3.3/5 well above global Electric Utilities sector average of 2.7
	2022 ESG score of <b>62/ 100</b> , the highest in Power –T&D sector

Notes: MSA: Media and Stakeholders Assessment; \*Sustainalytics: May'23 score of 30.72 changed to 31.5 due to MSA aspects; #S&P CSA 2023: Score of 69/100 changed to 62/100 due to MSA aspects



# AESL: Compelling Investment Case

## Favorable Industry Landscape

- Evolved and stable regulatory regime has enabled growth of **AESL's business into multiple segments (Transmission, Distribution, Smart metering, District cooling) within energy domain**
- Focus on **Grid reliability, consumerism and shift to RE based** power propelled investments in across the value chain

## Development and Construction Expertise

- Proven track record of **excellence in development & construction** of Transmission systems and **asset hardening at AEML**
- AESL remains **competitive at bidding stage** due to scale benefits and geographical presence across the country
- **Solid vendor management** and strong relationships adds to business sustainability and avoid cost escalations

## Operational and Execution excellence

- **Energy network operation center (ENOC)** allows remote monitoring and diagnostics to enhance O&M efficiency
- **Robust operational metrics** - line availability, supply reliability, distribution loss, affordable tariffs
- One of the **lowest O&M cost through predictive maintenance** and technology excellence

## Capital Management Philosophy

- Capital structure designed through debt financing at **tenure matching concession life** and terms akin to stable assets
- AESL is the only private sector transmission and distribution company in India with **International IG Rating**

## Capital Allocation and turnaround capability

- Disciplined approach towards new project bidding and acquisitions; stringent IRR (returns) threshold
- Commitment to **maintain strong credit profile and investment grade rating**
- Strong track record of acquisition and turn around of transmission and distribution assets

# Annexures

**37-40**

Regulatory Framework

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Smart Metering – Key Benefits

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Project Level Details – Asset Portfolio

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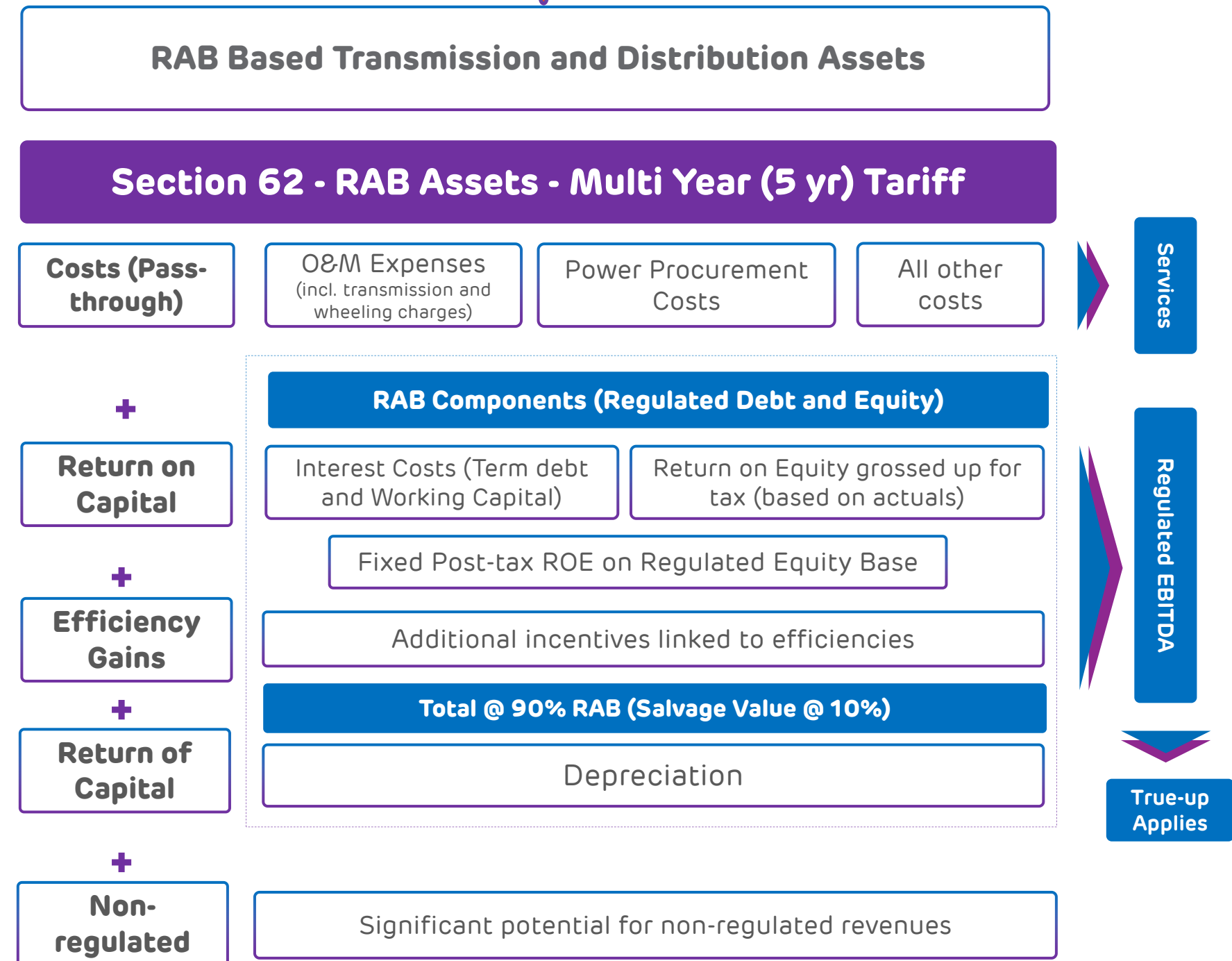
AESL - Board and Management Team

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# Stable Regulatory Framework

## The Electricity Act 2003

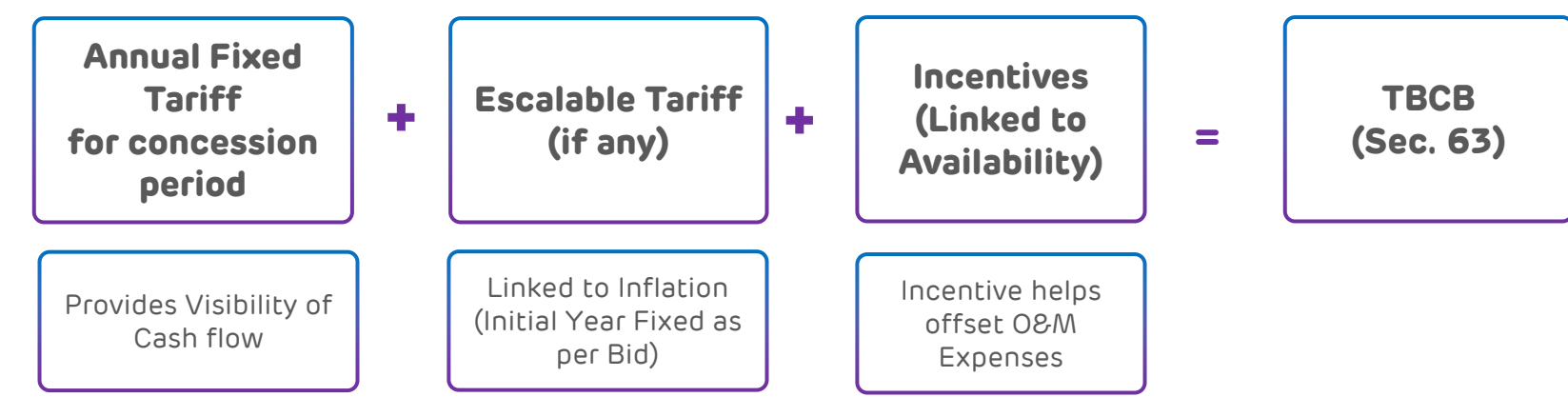


Perpetuity-type asset license with term renewed every 25 years (Distribution business) and well-established tariff setting mechanism with fixed ROEs on Regulated Equity Base

## Fixed Tariff Transmission Assets

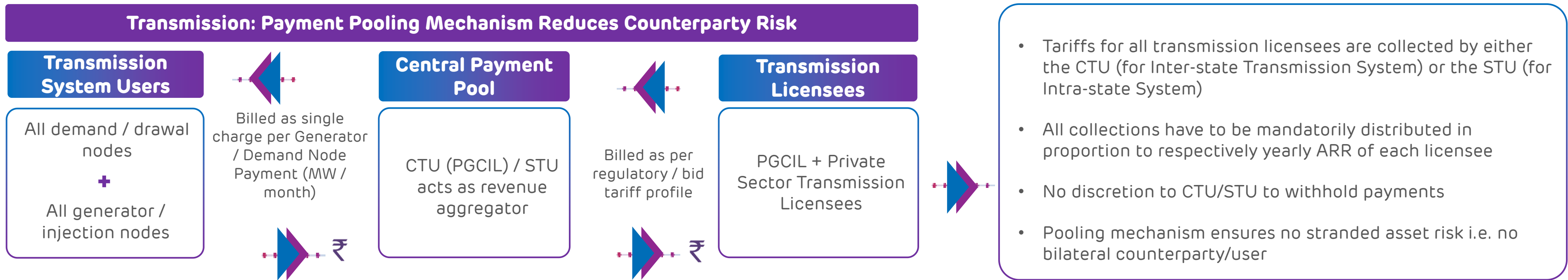
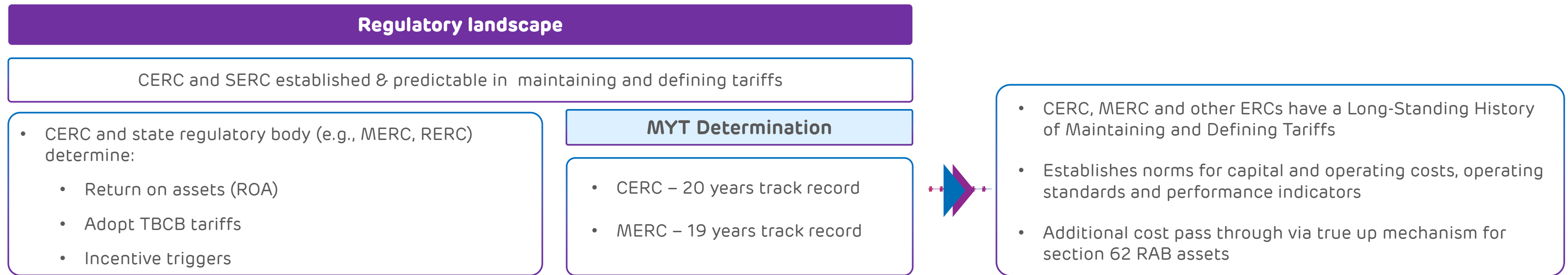
### Section 63 - Fixed Tariff Method - License Period Basis

- Project bid and allocation is under Tariff Based Competitive Bidding (TBCB) Mechanism
- Annual charge for a 35-year period is set through the bidding process
- Projects are bid either on BOOM or BOOT basis (residual life of assets normally exceed TSA period/concession period)
- Tariff is adopted by the relevant Electricity Regulatory Commission (ERC)



Concession model provides significant visibility of tariff profile thus offering cash flow certainty with very limited operational risk

# Payment Pooling Mechanism Reduces Counterparty Risk





# AEML: Robust Regulatory Framework

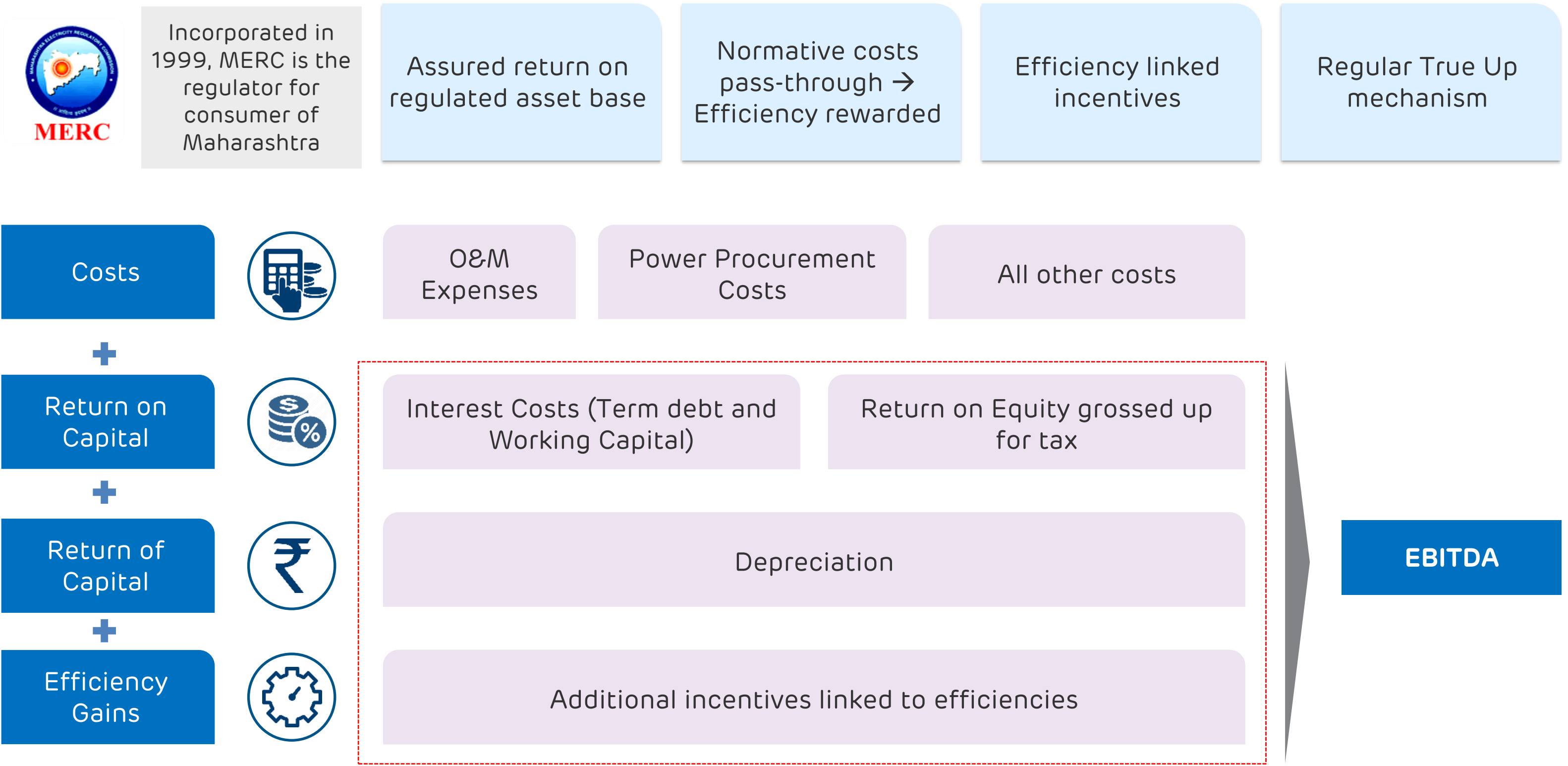
AEML as an integrated utility has touchpoints across different regulatory bodies

	State			Centre					
<b>Regulations / laws / policies</b>	Department of Energy	State Nodal Agency	State Electricity Regulatory Commission	Ministry of Power	MNRE	CEA	Department of Atomic Energy	CERC	Atomic Energy Regulatory Board
<b>System operator</b>	State Load Dispatch Center		Regional Load Dispatch Center	National Load Dispatch Center					
<b>Generation</b>	Independent Power Producers	State Power Plants		Independent Power Producers		Central Sector Generation Companies			
<b>Transmission</b>	State Transmission Utility			Central Transmission Utility (PGCIL)					
<b>Distribution</b>	State Distribution Company	Private Distribution Company							
<b>Dispute resolution</b>	MERC/ Appellate Tribunal of Electricity (APTEL) / Supreme Court								
<b>Power trading and power exchange</b>	2 operating Power Exchanges (PXIL and IEX) There are various licensed trading companies from central, state and private sectors								

Notes: MNRE - Ministry of New and Renewable Energy, CEA – Central Electricity Authority, CERC – Central Electricity Regulatory Commission, PXIL - Power Exchange India Limited, IEX - Indian Energy Exchange, PGCIL – Power Grid Corporation of India Limited  
Source - Power Ministry of India

# AEML: Operating in a stable and evolved regulatory framework with predictable & robust returns

Tariff is based on assured return on capital model + pass-through of costs + efficiency linked incentives





# Smart Metering: Key Benefits

## Technology transformation

Key technology towards the **transformation of power sector** in India

## Real time information

Measures electricity consumption & communicates the consumption reading to the power utilities

## Two-way communication

Between the meter and the power utility through cellular communication or radio frequency

### Key Benefits



#### Improved Cash Flows

- Upfront collection of dues and "Pay-as-per-use model" to eradicate arrears
- Reducing working capital requirements



#### Reduction in Operational costs

- Reduced meter reading charges, bill printing, manpower cost
- Field situation awareness to reduce theft and average / estimated billing



#### Improved Supply Quality

- Automatic monitoring of SAIFI, SAIDI
- Quicker response time to fault removal / consumer complaints
- Control over consumption
- Accurate estimates for network upgradation
- Real-time assessment of system performance



#### Customer Satisfaction

- Enhancing consumer participation
- Consumer profile, consumption pattern on real time basis.
- Increases accuracy of meter reading



#### ESG & RE Integration

- Data analytics helps load disaggregation, forecasting & consumption
- Time of Day (TOD) tariff matched with RE generation
- Efficient & sustainable energy management
- Helps people revise their consumption habits

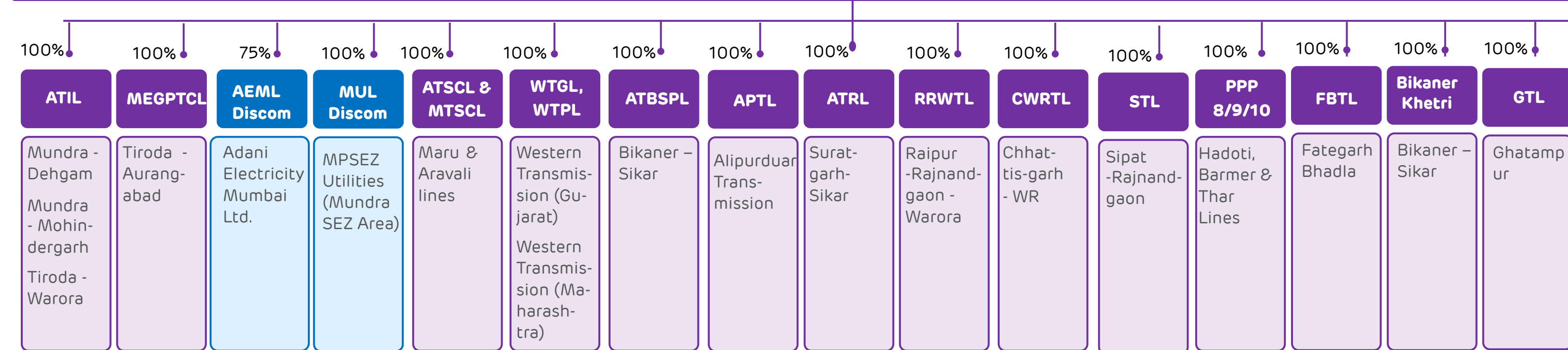


#### Improved Energy Accounting

- Enables mapping of consumer demand, feeder wise loading
- Identification of pilferage / high-loss pockets

# AESL's Operational Asset Portfolio as of Dec 2023 (1/2)

## Adani Energy Solutions Limited



## Operating Assets

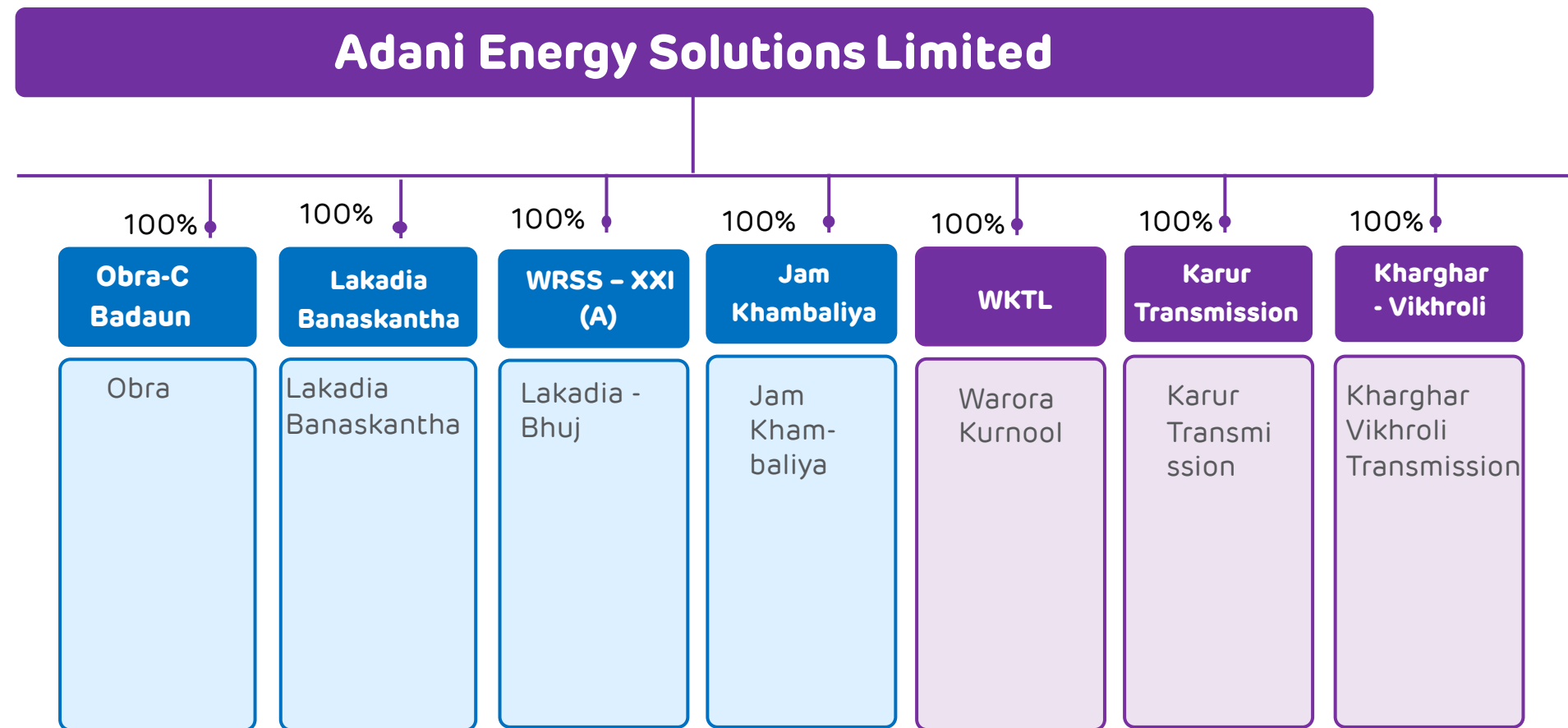
	ATIL	MEGPTCL	AEML Discom	MUL Discom	ATSCS & MTSCS	WTGL, WTPL	ATBSPL	APTL	ATRL	RRWTL	CWRTL	STL	PPP 8/9/10	FBTL	Bikaner Khetri	GTL	Total
<b>A</b>	3,834 ckms	1,217 ckms	572 ckms	151 ckms	397 ckms	3,063 ckms	343 ckms	650 ckms	278 ckms	611 ckms	434 ckms	348 ckms	413 ckms	292 ckms	481 ckms	897 ckms	➔ 13,981 ckms
<b>B</b>	6,630 MVA	6,000 MVA	3,250 MVA	360 MVA	1,360 MVA	-	-	-	-	-	630 MVA	-	585 MVA	-	-	-	➔ 18,815 MVA
<b>C</b>	c. 27 years	c. 30 years	c. 14 years	c. 11 years	c. 29 years	c. 30 years	c.32 years	c.35 years	c. 33 years	c. 34 years	c. 34 years	c. 34 years	c. 34 years	c. 35 years	c. 35 years	c. 35 years	➔ c. 30 years
<b>D</b>	Regulated return (ROA)	Regulated return (ROA)	Regulated return (ROA)	Regulated return (ROA)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	
<b>E</b>	Centre / State	State	State	State	State	Centre	State	Centre	State	Centre	Centre	Centre	State	Centre	Centre	State	
<b>F</b>	INR 50.3 Bn	INR 59.0 Bn	INR 170 Bn	INR 0.4 Bn	INR 3.9 Bn	INR 16.9 Bn	INR 2.2 Bn	INR 11.4 Bn	INR 1.3 Bn	INR 12.44 Bn	INR 9.3 Bn	INR 5.4 Bn	INR 3.7 Bn	INR 5.8 Bn	INR 8.6 Bn	INR 15.5 Bn	➔ INR 376.1 Bn

- A** Transmission line length
- B** Transformation capacity
- C** Residual concession life / License period
- D** Contract Type
- E** Counterparty
- F** Asset Base<sup>(1)</sup>

**Notes:** ATIL - Adani Energy Solutions (India) Limited; MEGPTCL - Maharashtra Eastern Grid Power Transmission Co. Limited; AEML: Adani Electricity Mumbai Limited (Distribution business); ATBSPL: Adani Energy Solutions Bikaner Sikar Private Limited; STL - Sipat Transmission Limited; RRWTL - Raipur Rajnandgaon Warora Transmission Limited; CWRTL – Chhattisgarh WR Transmission Limited; ATRL – Adani Energy Solutions (Rajasthan) Limited; ATSCS – Aravali Transmission Service Company Limited; MTSCS – Maru Transmission Service Company Limited, WRSS M – Western Region System Strengthening Scheme Maharashtra, WRSS G – Western Region System Strengthening Scheme Gujarat, (1) Asset base for operational assets as per project cost and Mumbai GTD (AEML) as per Regulated Asset Base



# AESL's Operational Asset Portfolio as of Dec 2023 (2/2)



**Projects Recently Commissioned**

	Obra-C Badaun	Lakadia Banaskantha	WRSS - XXI (A)	Jam Khambaliya	WKTL	Karur Transmission	Kharghar - Vikhroli	Total
<b>A</b> Transmission line length	630 ckms	352 ckms	292 ckms	38 ckms	1,756 ckms	10 ckms	74 ckms	➔ 3,152 ckms
<b>B</b> Transformation capacity	950 MVA	-	3000 MVA	2500 MVA	3000 MVA	1,000 MVA	1500 MVA	➔ 11,950 MVA
<b>C</b> Residual concession life/ License period	35 years	35 years	35 years	35 years	35 years	35 years	35 years	➔ 35 years
<b>D</b> Contract Type	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	
<b>E</b> Counterparty	State	Centre	Centre	Centre	Centre	Centre	State	
<b>F</b> Asset Base <sup>(1)</sup>	INR 6.9 Bn	INR 8.8 Bn	INR 10 Bn	INR 3.4 Bn	INR 37 Bn	INR 2 bn	INR 13 Bn	➔ INR 81.1 Bn

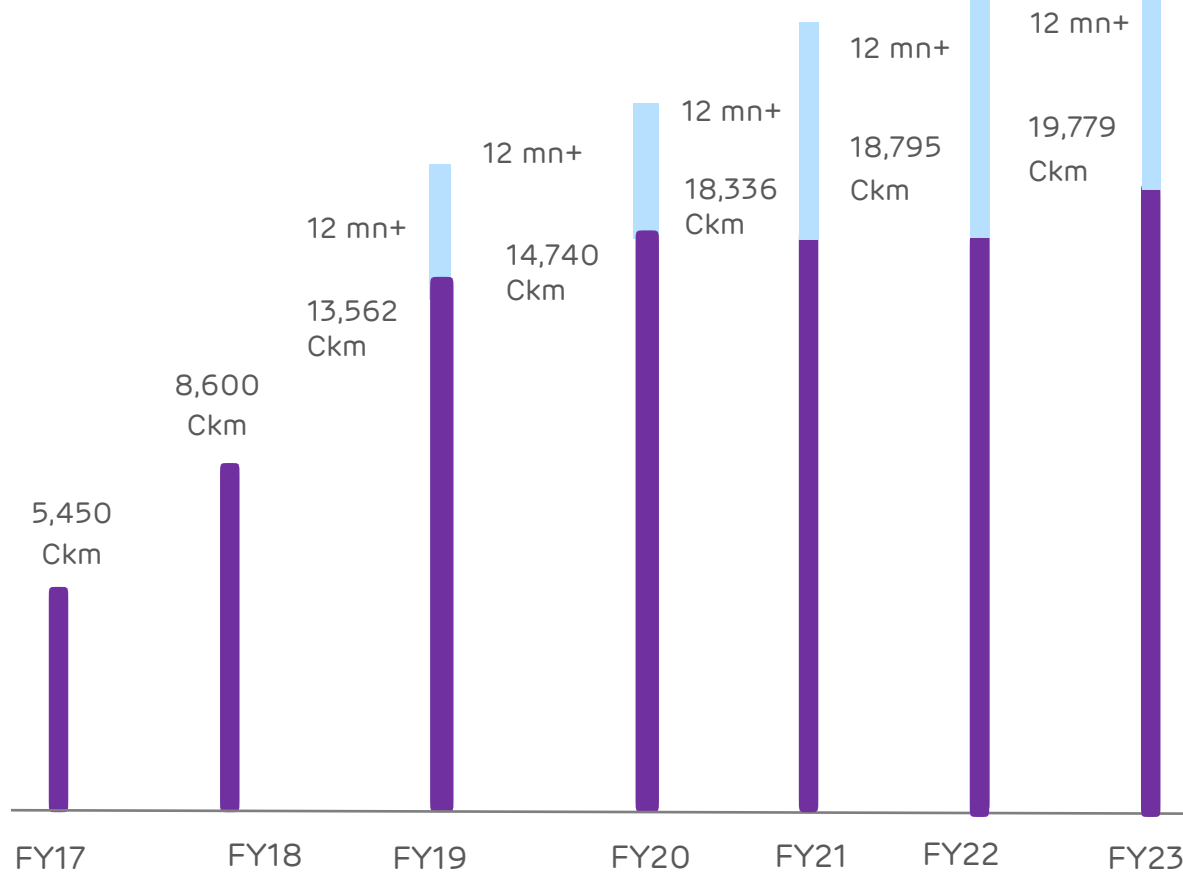
**Notes:** ATIL - Adani Energy Solutions (India) Limited; MEGPTCL - Maharashtra Eastern Grid Power Transmission Co. Limited; AEML: Adani Electricity Mumbai Limited (Distribution business); ATBSPL: Adani Energy Solutions Bikaner Sikar Private Limited; STL - Sipat Transmission Limited; RRWLT - Raipur Rajnandgaon Warora Transmission Limited; CWTL – Chhattisgarh WR Transmission Limited; ATRL – Adani Energy Solutions (Rajasthan) Limited; ATSCS – Aravali Transmission Service Company Limited; MTSCS – Maru Transmission Service Company Limited, WRSS M – Western Region System Strengthening Scheme Maharashtra, WRSS G – Western Region System Strengthening Scheme Gujarat, (1) Asset base for operational assets as per project cost and Mumbai GTD (AEML) as per Regulated Asset Base

# AESL's Transmission Under-construction Asset Portfolio as of Dec 2023

Since AESL's evolution its Transmission Network (ckms) has grown 3.5x and expanded into Distribution businesses

## AESL's "Grid-to-Switch" Integrated Platform

- Transmission Line (Ckms)
- Distribution Customers (mn)



## Adani Energy Solutions Limited

100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>NKTL</b>	<b>MP Package II</b>	<b>AEMIL HVDC#</b>	<b>Khavda-Bhuj</b>	<b>WR-SR</b>	<b>KTL</b>	<b>KPS-1</b>	<b>STSL</b>	<b>Khavda - III - A</b>	<b>KPS-1</b>
North Karanpura Transmission System	MP Power Transmission Package-II Ltd	HVDC Mumbai	Khavda Bhuj Transmission (KBTL)	WR SR Transmission (Narendra-Pune Line)	Khavda-II-A Transmission	Khavda Pooling Station 1	Sangod Transmission	Khavda Phase-III Part-A	KPS - 1 (Khavda Pooling Station) Augmentation

## Under Construction

										Total	
<b>A</b>	304 ckms	1,087 ckms	80 ckms	217 ckms	630 ckms	355 ckms	42 ckms	15 ckms	560ckms	-	→ 3,290 ckms
<b>B</b>	1,000 MVA	2,736 MVA	1,000 MVA	4,500 MVA	6,000 MVA	-	6,000 MVA	1160 MVA	-	1500 MVA	→ 23,896 MVA
<b>C</b>	35 years	35 years	35 years	35 years	35 years	35 years	35 years	35 years	35 years	35 years	→ 35 years
<b>D</b>	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Regulated Return (ROA)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Fixed tariff (TBCB)	Regulated Return (ROA)	
<b>E</b>	Centre	State	State	Centre	Centre	Centre	Centre	State	Centre	Centre	
<b>F</b>	INR 9.7 Bn	INR 13.6 Bn	INR 70 bn	INR 12 bn	INR 21.1 bn	INR 12.7 bn	INR 8.6 bn	INR 1.6 Bn	INR 27 bn	INR 2 bn	→ INR 178 bn
<b>G</b>	Sept.-22 - July'24	Dec-23	Mar-25	Jan-24	Aug-24	Mar-25	Jan-25	Dec-24	Dec-25	July'25	

- A** Transmission line length
- B** Transformation capacity
- C** Residual concession life / License period
- D** Contract type
- E** Counterparty
- F** Asset base<sup>(1)</sup>
- G** COD<sup>(2)</sup>

Notes: 1) Asset base for under-construction assets – as per the estimated project cost as of September 2023; (2) Provisional Commercial Operation Date (COD); NKTL – North Karanpura Transco Limited; GTL: Ghatampur Transmission Limited; OBTL: Obra Transmission Limited; LBTL: Lakadia Bhuj Transmission Limited; JKTL: Jam Khambaliya Transmission Limited; KVTL: Kharghar Vikhroli Transmission Limited; WKTL: Warora Kurnool Transmission Limited  
 #AEMIL - Adani Electricity Mumba Infra Limited 100% shares are currently being held by AEML. Due to CERC restrictions 51% shares are pledged in favor of AESL



# AESL's Smart Metering Under-construction Portfolio as of Dec 2023

Adani Energy Solutions Limited										
100%										
BEST	APDCL	APEPDCL - Phase 1 & 2	APCPDCL - Phase 1 & 2	APSPDCL - Phase 1 & 2	MSEDCL NSC-05	MSEDCL NSC-06	NBPDCL	UPCL		
BEST Smart Metering Ltd. (Mumbai)	NE Smart Metering Ltd. (Assam)	Adani Transmission Step-Seven Ltd. (Andhra Pradesh)	Adani Transmission Step-Seven Ltd. (Andhra Pradesh)	Adani Transmission Step-Seven Ltd. (Andhra Pradesh)	Adani Transmission Step-Six Ltd. (Maharashtra)	Adani Transmission Step-Six Ltd. (Maharashtra)	Adani Energy Solutions Limited (Bihar)	Adani Transmission Step-Eight Ltd. (Uttarakhand)		
Mumbai	Tejpur, Mangaldoi, North Lakhimpur	Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari	Krishna, Guntur & Prakasam	Nellore, Chittoor, Kadapa, Anantapuram & Kurnoolam & Kurnool	Bhandup Zone, Kalyan Zone and Konkan Zone	Baramati Zone and Pune Zone	Siwan, Suran, Gopalganj, Vaishali, and Samastipur	Kumaon Region		
Under Construction										
									Total	
<b>A</b> Smart Meters Qty (in million)	1.1	0.8	1.1	1.7	1.3	6.3	5.2	2.8	0.7	➔ 21.1 million
<b>B</b> Contract Value (in Rs Billion)	13.0	8.4	13.0	20.8	18.0	75.9	62.9	31.0	8.1	➔ INR 251 Bn
<b>C</b> Contract Period (months)	120	120	120	120	120	120	120	120	120	➔ 120 months per contract
<b>D</b> Contract Type	DBFOOT	DBFOOT	DBFOOT	DBFOOT	DBFOOT	DBFOOT	DBFOOT	DBFOOT	DBFOOT	
<b>E</b> Month of Award	Sept & Oct'22 (Amendment)	Feb'23	June-Dec'23	June-Nov'23	June-Sept'23	Aug'23	Aug'23	Aug'23	Dec'23	
	1	2	3	4	5	6	7	8	9	

Notes: The Discoms are our customers and AESL is executing these contracts through 100% owned SPVs.; DBFOOT: Design-Build-Finance-Own-Operate-Transfer; BEST: Brihanmumbai Electricity Supply and Transport; APDCL: Assam Power Distribution Company Ltd; APEPDCL: Andhra Pradesh Eastern Power Distribution Co Ltd; APCPDCL: Andhra Pradesh Central Power Distribution Co Ltd; APSPDCL: Andhra Pradesh Southern Power Distribution Co Ltd.; MSEDCL: Maharashtra State Electricity Distribution Company Limited; NBPDCL: North Bihar Power Distribution Company Limited; UPCL: Uttarakhand Power Corporation Limited

# AESL: Board and Management Team

## Strong Sponsorship



**Mr. Gautam S. Adani**  
*(Chairman)*



**Mr. Rajesh S. Adani**  
*(Director)*



**Mr. Anil Sardana**  
*(MD, AESL)*

## Managing Director



**Mr. K. Jairaj**



**Dr. Ravindra H. Dholakia**

## Independent Directors



**Mrs. Meera Shankar**



**Ms. Lisa MacCallum**

## Skilled and Experienced Management Team



**Mr. Anil Sardana**  
*(MD, AESL)*



**Mr. Kandarp Patel**  
*(CEO, AESL)*



**Mr. Rohit Soni**  
*(CFO, AESL)*



**Mr. Kunjal Mehta**  
*(CFO, AEML)*

Strong governance framework with focus on transparency and independence



MUSHKILON KI  
NAHI SUNTE,  
HUM KARKE  
DIKHATE HAIN.

#HumKarkeDikhateHain

adani

adani  
Energy Solutions

adani  
Energy Solutions

Thank You