



## Adani Energy Solutions Limited

(Formerly known as Adani Transmission Limited)

**Credit Presentation** 

November 2024

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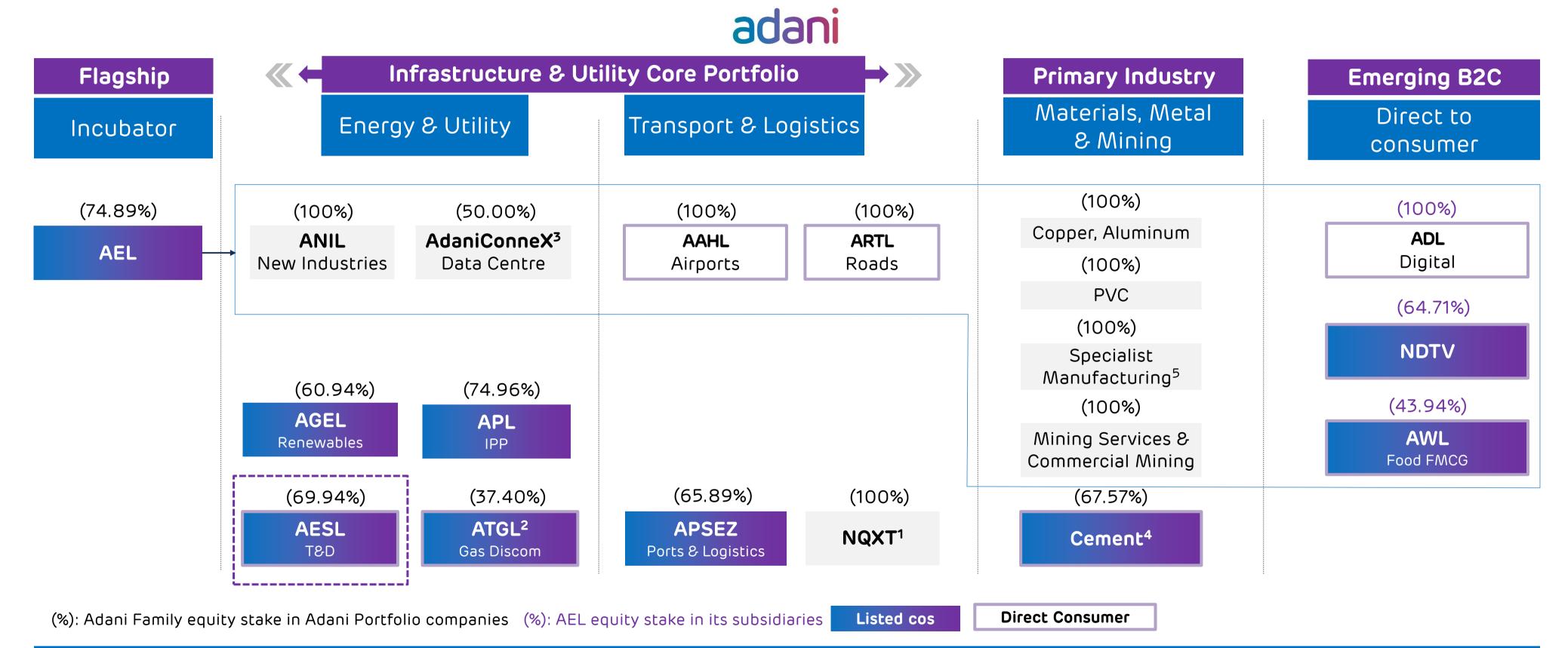




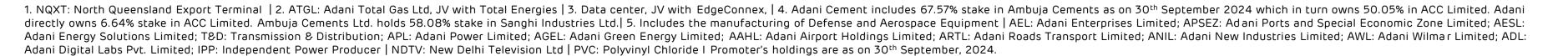
## Adani Portfolio

### Adani: A World Class Infrastructure & Utility Portfolio





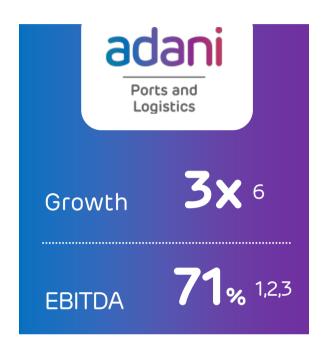
#### A multi-decade story of high growth centered around infrastructure & utility core

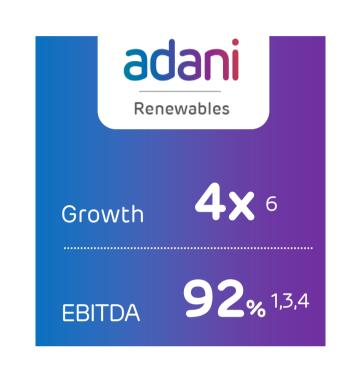


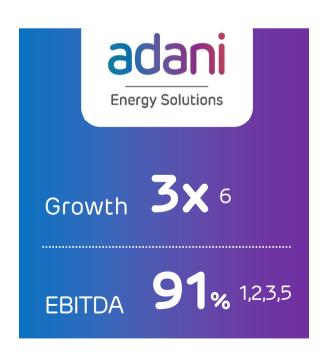
## Adani Portfolio: Decades long track record of industry best growth with national footprint

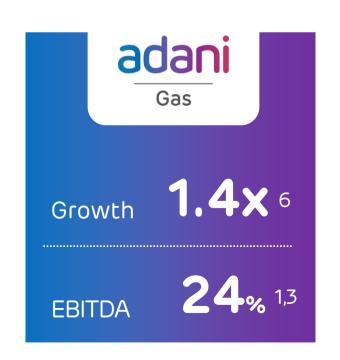


#### Secular growth with world leading efficiency









## National footprint with deep coverage AEL APSEZ Adani's Core Infra AGEL Platform -ATGL AESL 350 Mn APL Adani Cement Userbase

Note: 1. Data for FY24; 2. Margin for Indian ports business only I Excludes forex gains/losses; 3. EBITDA: Earning before Interest Tax Depreciation & Amortization I EBITDA: PAT + Share of profit from JV + Tax + Deferred Tax + Depreciation + Finance Cost + Forex Loss / (Gain) + Exceptional Items 4. EBITDA Margin represents EBITDA earned from power supply 5. Operating EBITDA margin of transmission business only, does not include distribution business I 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 408 MMT (14%) between 2014 and 2024, outpacing the industry's growth from 972 MMT to 1539 MMT (5%). AGEL's operational capacity expanded from 0.3 GW to 10.9 GW (57%) between 2016 and 2024, surpassing the industry's growth from 46 GW to 143.6 GW (15%). AESL's transmission length increased from 6,950 ckm (14%) between 2016 and 2024, surpassing the industry's growth from 3,41,551 ckm to 4,85,544 ckm (4%). ATGL expanded its geographical areas from 6 to 52 (27%) between 2015 and 2024, outperforming the industry's growth from 62 to 307 (19%). PBT: Profit before tax I ATGL: Adani Total Gas Limited I APSEZ: Adani Ports and Special Economic Zone Limited I AESL: Adani Energy Solutions Limited I APL: Adani Power Limited I AGEL: Adani Green Energy Limited I Growth represents the comparison with respective industry source: APSEZ (domestic cargo volume): <a href="https://shipmin.gov.in/division/transport-research">https://shipmin.gov.in/division/transport-research</a> I Renewable (operational capacity): Installed Capacity Report - Central Electricity Authority (cea.nic.in) I AESL (ckms): National Power Portal (npp.gov.in) I ATGL (GAs): Brochure petroleum.cdr (pngrb.gov.in) | ckms: circuit kilometers | GA: Geographical Areas

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



#### **DEVELOPMENT**

#### Adani Infra (India) Limited (AIIL)

### **OPERATIONS**

Operations (AIMSL)

#### **CONSUMERS** New C.E.O. Consumer | Employees | Other Stakeholders

### Origination

#### Analysis & market intelligence

Viability analysis

#### Site Development

- Site acquisition
- Concessions & regulatory agreements

#### Construction

- Engineering & design
- Sourcing & quality

#### Operation

- Life cycle O&M planning
- Asset Management plan

#### Inspired Purpose & Value Creation

- Delivering exceptional products & services for elevated engagement
- Differentiated and many P&Ls



India's Largest **Commercial Port** (at Mundra)

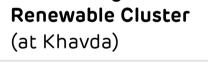


Longest Private HVDC Line

(Mundra - Mohindergarh)

Investment Case

Development



World's largest

Growth Capital - Platform Infrastructure Financing Framework



**Energy Network Operation Center** (ENOC)



**MANAGEMENT** 

ACTIVITY

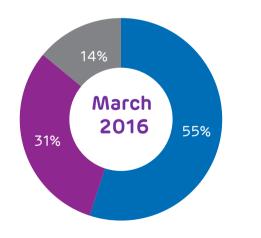
**ERFORMANCE** 

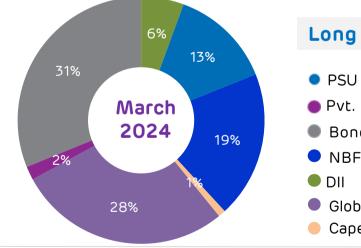
Strategic value Mapping

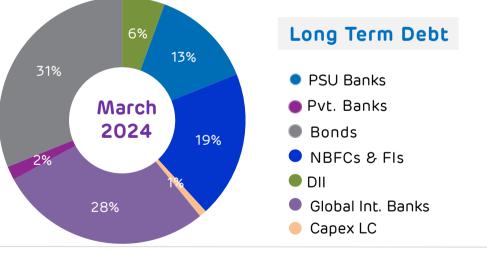
Policy, Strategy & Risk Framework



**Duration** Risk Matching Risk Management - Rate & Currency Governance & Assurance **Diversified Source of Capital** 







ENABLER

Continued Focus & Investment



- **Human Capital** Development
- Leadership Development Initiatives
- Investment in Human Capital

Al enabled Digital Transformation

- Power Utility Business ENOC
- City Gas Distribution SOUL
- Transportation Business AOCC

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



**Development** 



#### **Execution Prowess**

Transmission Network of **24,084 ckm**<sup>(1)</sup>

Built Longest Private HVDC Line (2)

#### Strategic Presence

Transmission - Presence in 14 states

Distribution - Integrated utilities catering to Mumbai (AEML) and Mundra (MUL)

Smart Meters - Presence in 5 states

#### RAB expansion through Asset Hardening in Discoms

**7% CAGR growth in RAB** in Mumbai Discom since acquisition

AEML growth strategy is emulated in MUL

#### **Operations**



#### Operating Efficiency

Robust network availability of 99.7%

One of lowest Distribution losses in the country (4.85% in Q2 FY25 in AEML)

Highest EBITDA margin in the sector (92% in Transmission)

#### Consumer-centricity

Supplier of choice for **12 million+** consumers with a green power option

Smart Metering (91 million potential consumer base)

#### Embedded ESG Framework

Decarbonisation of Grid (**RE share in AEML's power mix reached 39%** and on track to reach 60% by FY27)

Installed 3.36 MWp solar capacity for auxiliary consumption at substations

Board Diversity and Strengthening

## Returns and Equity Value Creation



#### **Equity Program**

Raised Rs 8,373 crore via QIP, making it the largest fundraise in the Indian power sector

Secured primary and secondary equity investments from marquee investors

## Capital Management and International IG Rating

Robust capital management program with access to long tenor low-cost capital

BBB- / Baa3<sup>(3)</sup>

#### Significant Growth Potential

## Parallel Licensing, Smart Metering and Energy Solutions

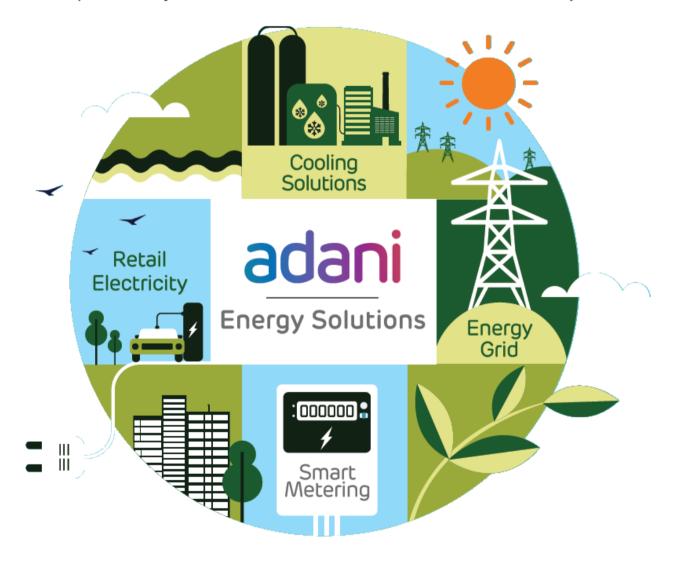
Increasing participation in renewable grid (eg: HVDC Mumbai, Khavda)

Green industrial cluster in Mundra



## Adani Energy Solutions Ltd.

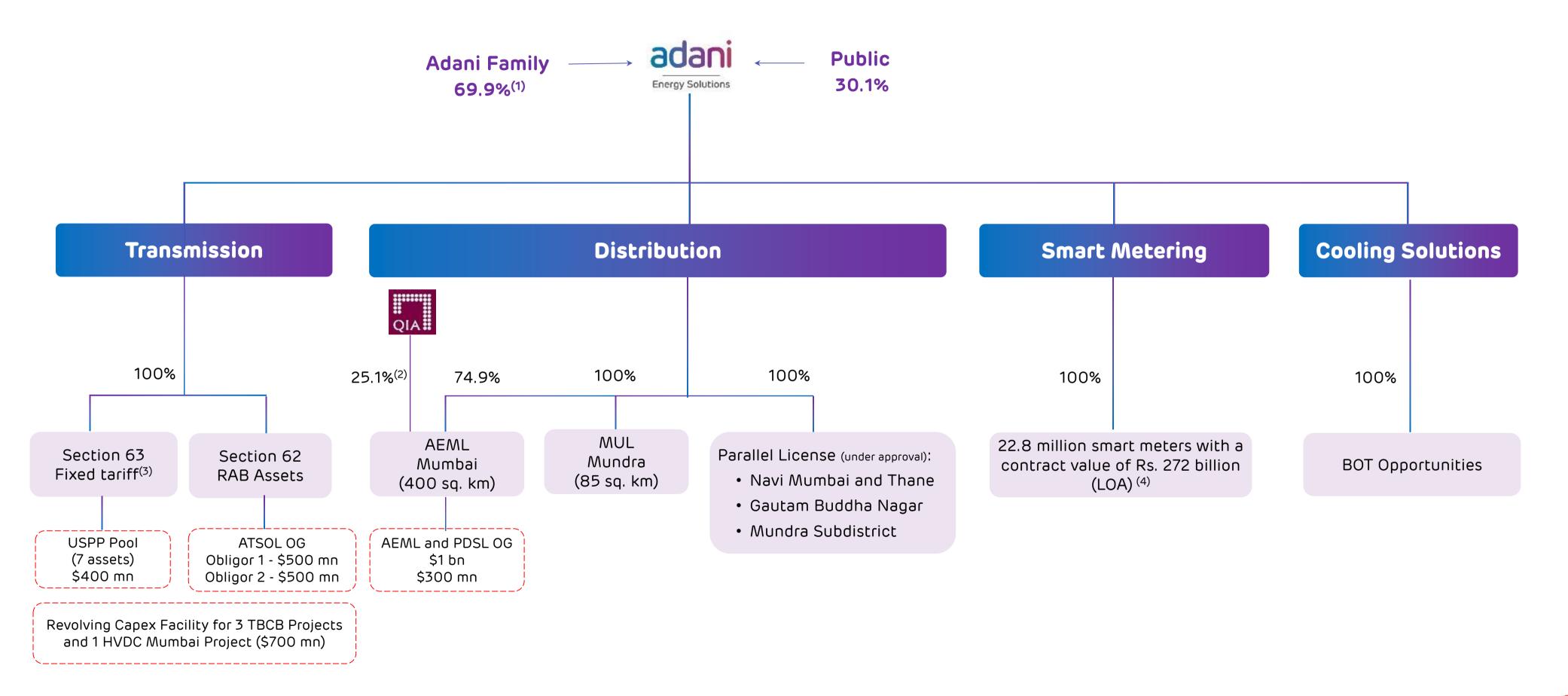
(formerly known as Adani Transmission Ltd.)



## About AESL

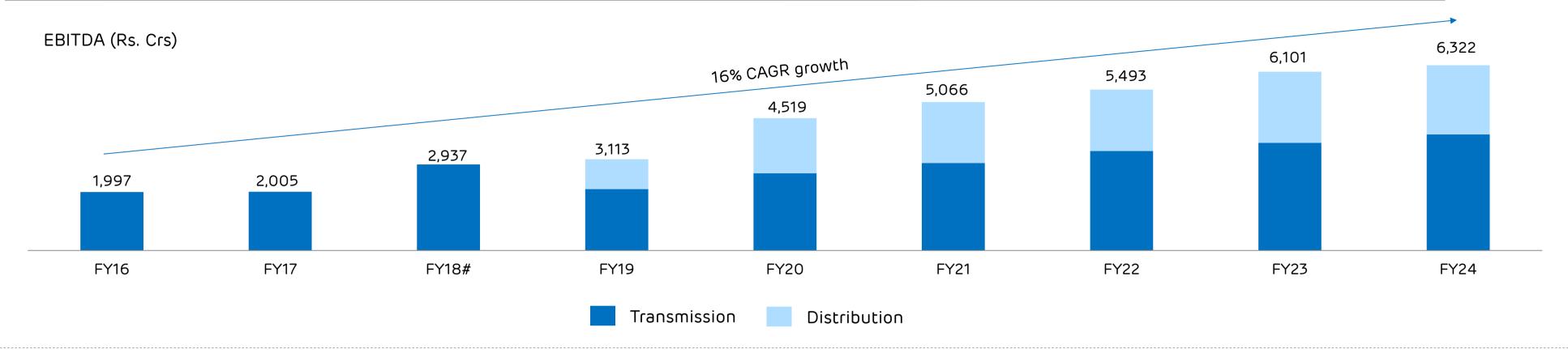
### **AESL**: Business Snapshot

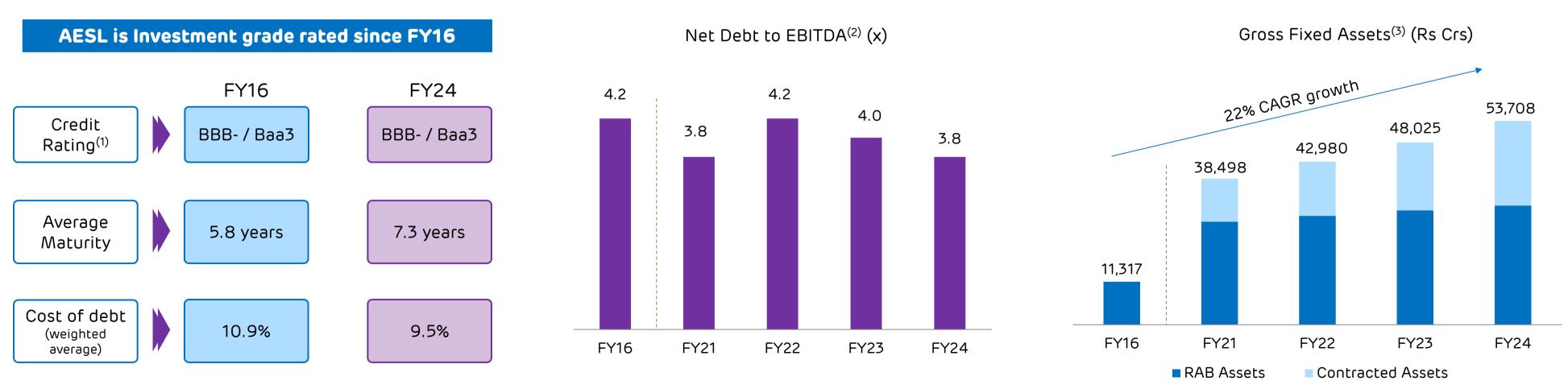




## Transformational Journey with Robust Growth and Credit Discipline







## 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-/Stable
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+	Stable
AESL	ICRA	A1+	Stable
AESL	CRISIL	AA+	Stable
MEGPTCL	India Ratings	AA+	Stable
ATIL	India Ratings	AA+	Stable
WTGL	India Ratings	AAA	Stable
WTPL	India Ratings	AA+	Stable
MTSCL	India Ratings	AA-	Stable
ATSCL	CARE	Α	Stable
ATBSPL	India Ratings	AA	Stable
FBTL	CARE	AA	Stable
OBTL	CARE	Α	Stable
AEML	India Ratings / CRISIL	AA+	Stable
JKTL	India Ratings	A-	Stable
WKTL	India Ratings	AA-	Positive
APTL	India Ratings/ CRISIL	AAA	Stable
ATSOL	India Ratings	AA+	Stable
MPTPL	India Ratings	A2+	-
ATSTL	CRISIL	AA	Positive

Notes: AESL and AEML credit ratings are as of September'24

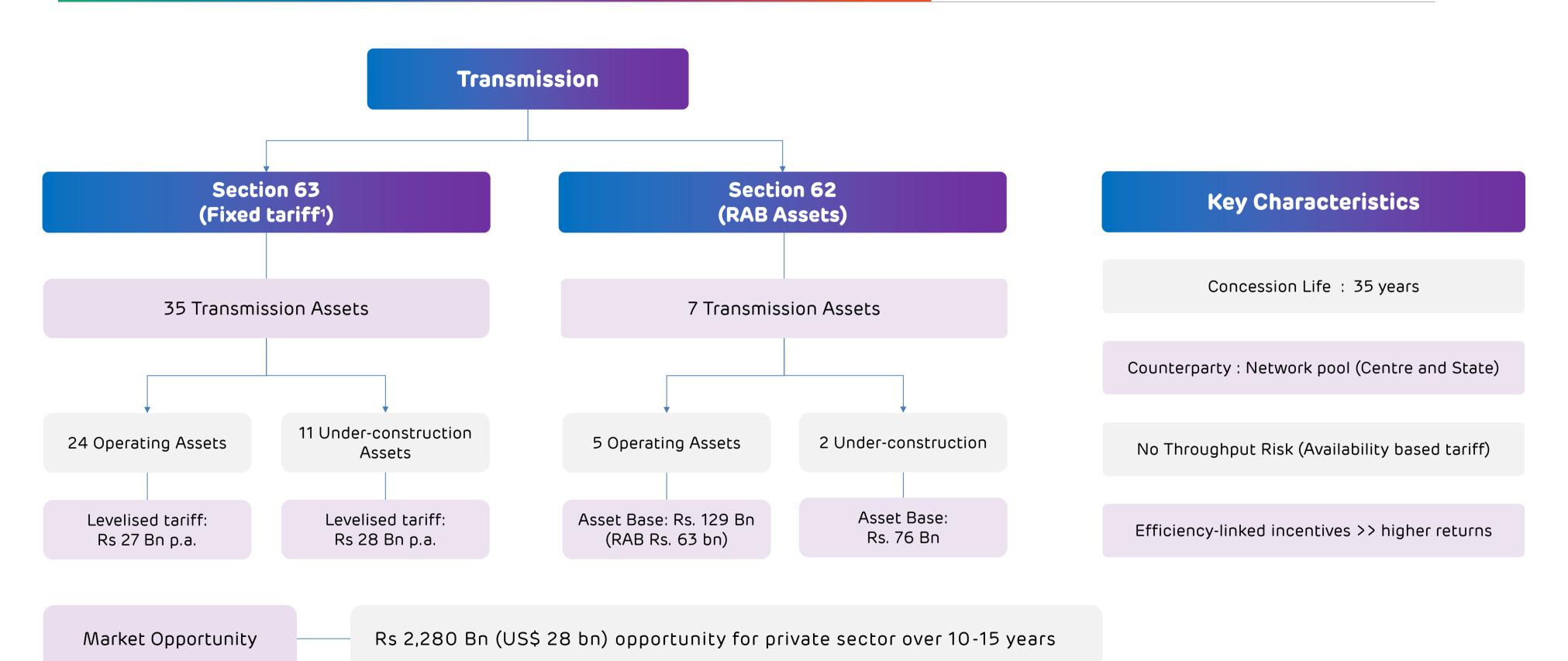




## Transmission

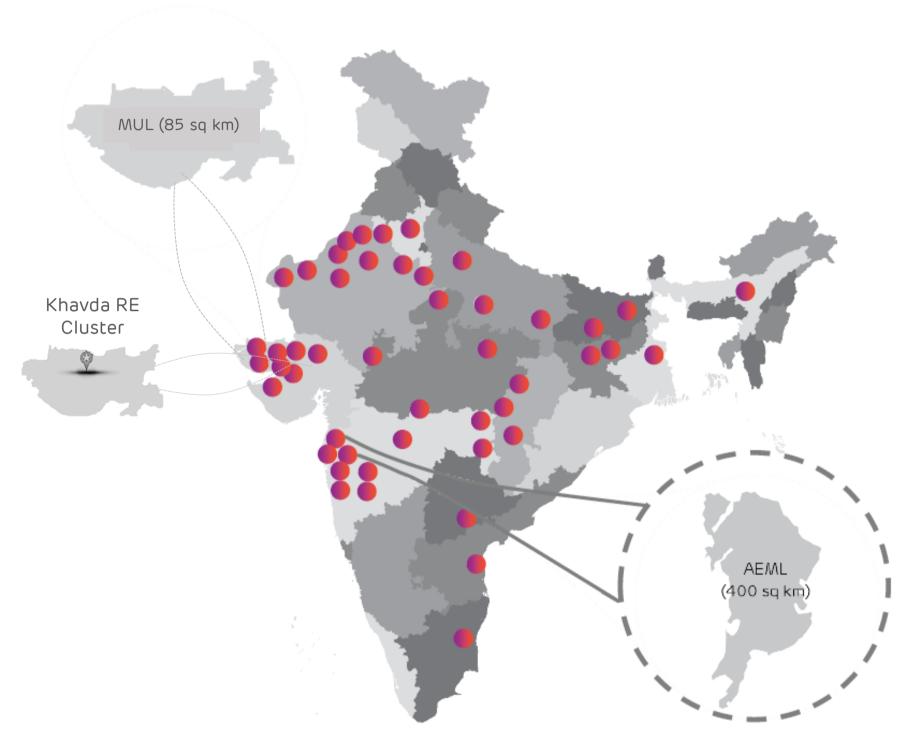
### **Transmission** Business





## Asset Portfolio: Presence Across the Country





Red: Operational assets #Map not to scale

^Partial commissioning of NKTL line: 85 ckm out of 304 ckm; MP II line: 1072 ckm out of 1088 ckm; Sangod line: 11.3 out of 11.4 ckm; Khavda Phase-II, Part-A: 142 ckm out of 355 ckm; KPS- 1: 19 out of 42 thus total 1,329 ckm has been commissioned out of total 5970 ckm in under-construction stage

MEGPTCL: Maharashtra Eastern Grid Power Transmission Company Limited; ATIL: Adani Transmission (India) Limited; ATSCL: Aravali Transmission Service Company LTD.; MTSCL: 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 Tranmission 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.; NES: Network Expansion Scheme (NES)

States
(distinct states including smart metering business)

~24,084
ckt km
Transmission
Line

~75,186

MVA

Transmission
Capacity

No	Operational	Ckt Kms
1	MEGPTCL	1,217
2	ATIL (3 lines)	3,834
3	ATSCL	97
4	MTSCL	300
5	WTGL	974
6	WTPL	2,089
7	AEML	573
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	242
25	WKTL	1,756
26	KTL	9
27	KVTL	74
28	KBTL	217
29	ATSTL (EPTCL)	673
	Subtotal (A)	18,115
No	Under construction^	Ckt Kms
30	NKTL	304
31	AEMIL (HVDC)	80
32	MPII	1,088
33	WRSR	630
34	Khavda II Part A	355
35	KPS – 1	42
36	Sangod Trans	11
37	Khavda Ph III Part A	586
38	Line & SS Augmentation	-
39	Khavda Phase IV Part A	602
40	NES – Navinal (Mundra)	516
41	NES – Jamnagar	941
42	Khavda Phase IV Part D	816
	Subtotal (B)	5,970
	Total (A+B)	24,084

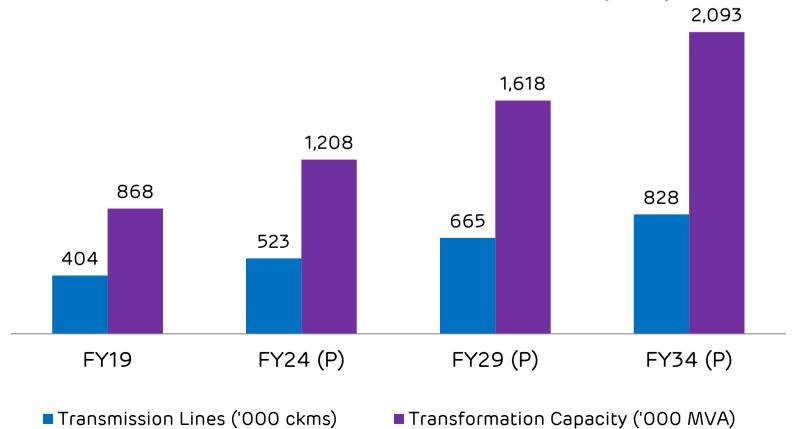


## Transmission: Private Participants Opportunity of ~US\$ 28 bn over 10 years

#### Attractive Industry Opportunity backed by strong policy support

- Mandatory competitive bidding introduced since 2006 (TBCB)
  has created a level playing field for private players
- Private sector has won 59 projects out of total 101 transmission TBCB projects awarded since 2011<sup>(2)</sup>
- Identified TBCB opportunity in near-term is about Rs. 840 Bn / US\$ 10 Bn<sup>(3)</sup> under RFP/RFQ stage
- Schemes like UDAY, 24x7 Power for All, Village Electrification etc.
   strengthening the value chain

#### Growth in transmission lines and transformation capacity



#### RE penetration & General Network Access to boost system strengthening

Renewable Penetration

General network access (GNA)

500 GW Target by 2030 and 600 GW Target by 2032

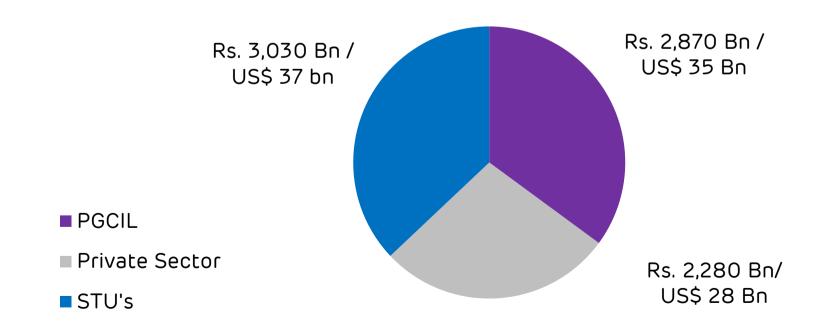
GNA Regulations for access to inter-state transmission systems since 2017

Rs 4.76 Lakh Crs (US\$ 58 Bn) by 2027 and Rs 9.15 Lakh Crs (US\$ 110 Bn) by 2032
Transmission opportunity driven by RE and

system strengthening (as per CEA)

Flexibility to Discoms to procure higher component of power under short term and medium-term tenders from generators across the country

#### Overall investment of Rs. 8,180 Bn / US\$ 100 bn over 10 years



Private Participants Opportunity of Rs. 2,280 Bn / US\$ 28 bn

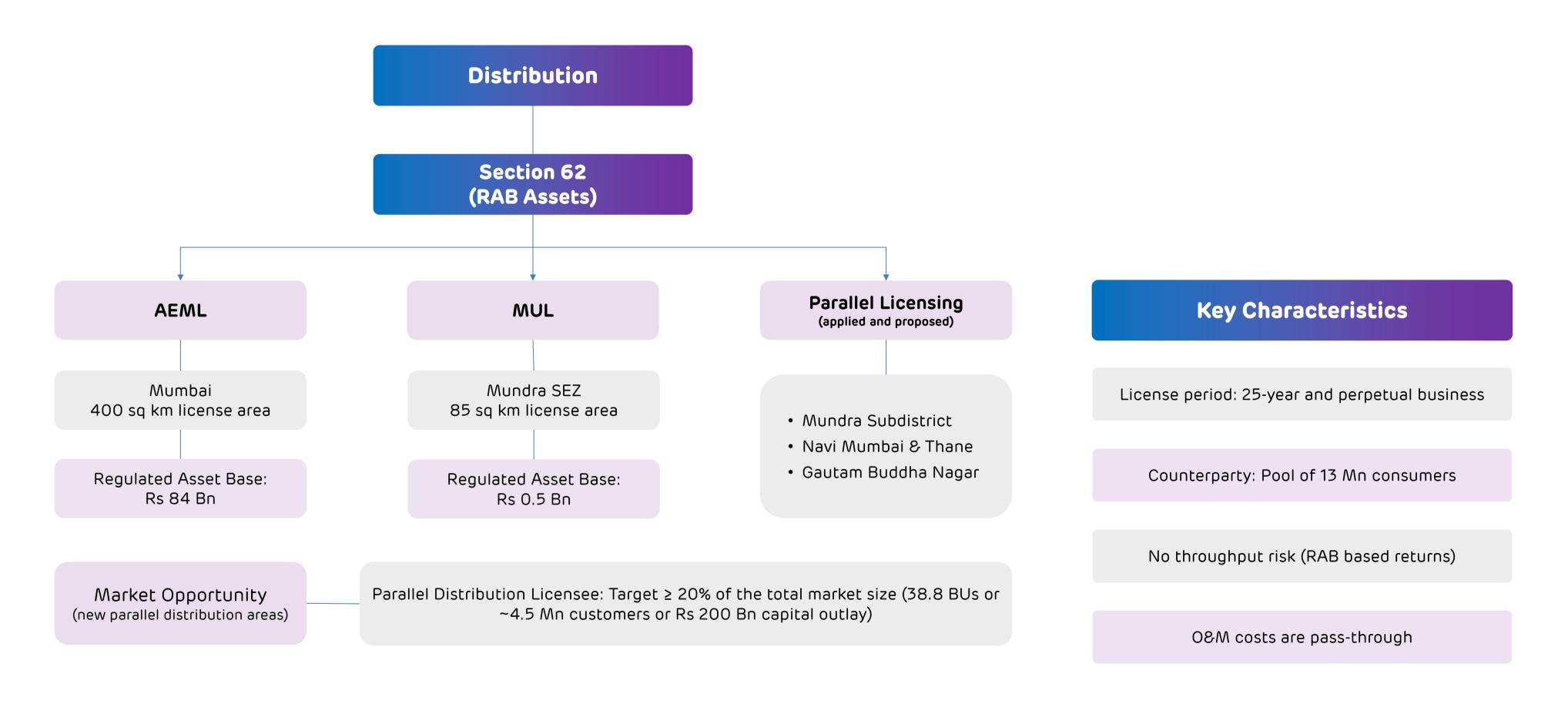




## Distribution

### **Distribution** Business

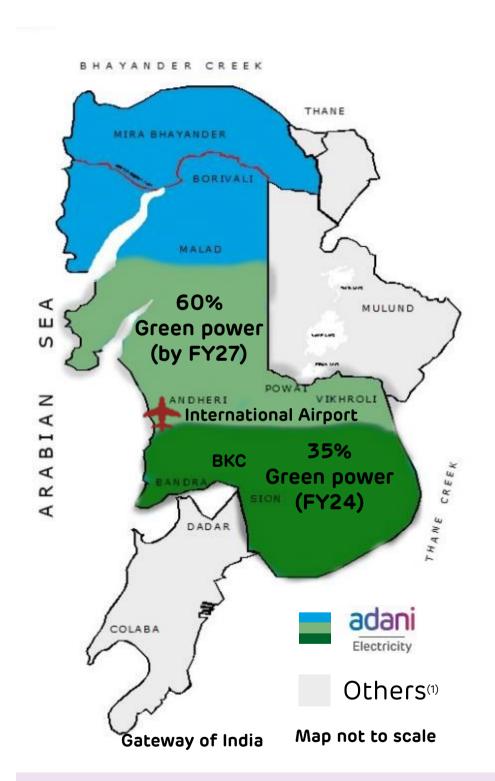




## AEML Distribution: India's No. 1 power utility, as per MoP, McKinsey, PFC (Scored 99.6/100)



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



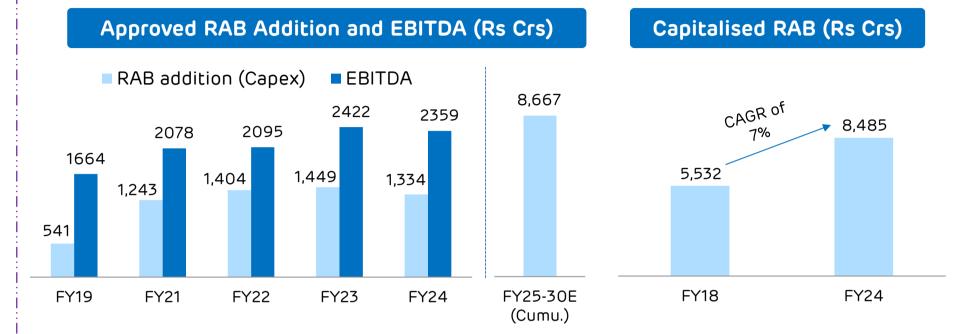


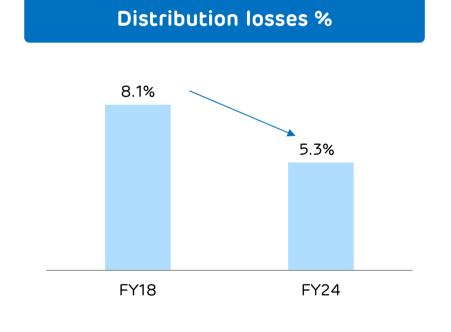
#### **Mumbai Consumers**

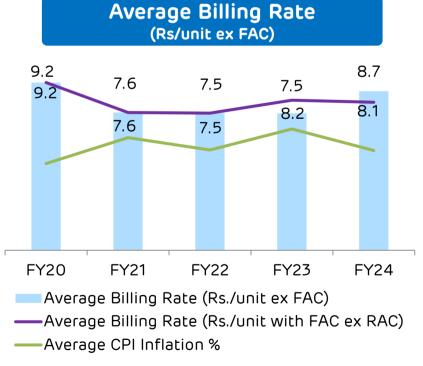
2.2x	Per capita income of India
Rs 3,28,000	Per capita income of Mumbai (FY20)
Rs 36,000	Avg Annual Electricity Bill of AEML Consumer
~6%	Average electricity bill as % of per capita income

- Servicing 85% of Mumbai, touching 2/3 households of Mumbai
- One of the largest mega city in the world to achieve 35% renewable power

#### **AEML – Key Milestones Since Acquisition**







Capex-led growth in Regulated Asset Base to drive growth in returns (Rs. 87 Bn over FY25-30e)

## MPSEZ Utilities Limited (MUL): Overview

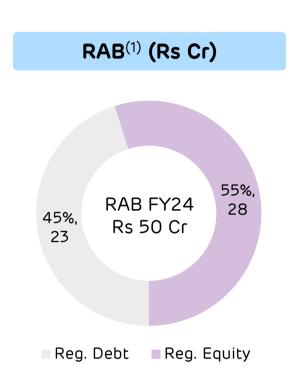


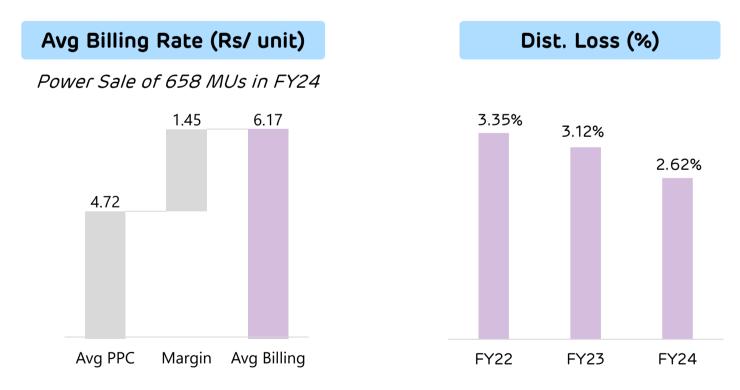
## Mundra SEZ is strategically located with well developed supporting infrastructure serving as an attractive industrial hub



- Electricity Distribution for Mundra SEZ area
- Catering primarily to commercial and industrial consumers
- Section 62 (RAB Based) asset governed by Gujarat Electricity Regulatory Commission
- 237 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





MUL's average existing load is ~77MW in FY24, which is expected to grow multifold due to new investments in copper, petrochemicals and solar manufacturing & ancillary industries in the Mundra region

## Distribution and Parallel License Opportunity



- Power distribution is one of the largest consumer facing sectors in the country. 96.7% of ~270 mn households(1) in India are connected to the grid and primarily owned and operated by state governments
- AESL's Distribution platform intends to position as the electricity supplier of choice
- Parallel Distribution Licensee enabled under 6<sup>th</sup> proviso to section 14 of Electricity Act 2003 as follows:
- "The Appropriate Commission may grant a license to two or more persons for distribution of electricity through their own distribution system within the same area, subject to the conditions that the applicant for grant of license within the same area shall, without prejudice to the other conditions or requirements under this Act, comply with the additional requirements [relating to the capital adequacy, credit-worthiness, or code of conduct] as may be prescribed by the Central Government, and no such applicant, who complies with all the requirements for grant of license, shall be refused grant of license on the ground that there already exists a licensee in the same area for the same purpose"
- Proposed Total Capital Outlay<sup>(2)</sup> of Rs. 200 Bn over 8 years
- Parallel Distribution Licensee  $^{(2)}$ : Target ≥ 20% of the total market size 38.8 BUs or approx. 4.5 million customers

#### **Available Opportunities** Adani's Core Competency and Distribution Expertise Parallel Licensing in more than 3 new regions with potential 9x Cost Competitiveness – Cheap bulk power sourcing, Opex control growth in the distribution area(3)**Digitization** – Tech-enabled solutions for efficient operations Expansion of MUL Discom license area Our Growth Competitive **Technical Expertise** – Regulatory framework, Network design & operations areas Advantage Further RAB additions in AEML Value Added Services – Green Power, Energy Audits, EV Charging Distribution Platform for Group consumers and commercial and Reliability – Delivering world class reliability & quality of supply industrial customers

#### AESL's Core Strengths and Available Synergies in the Distribution space:

Experience of operating AEML – the No. 1 Discom in the country | Expertise of operating in a multi-player competitive environment

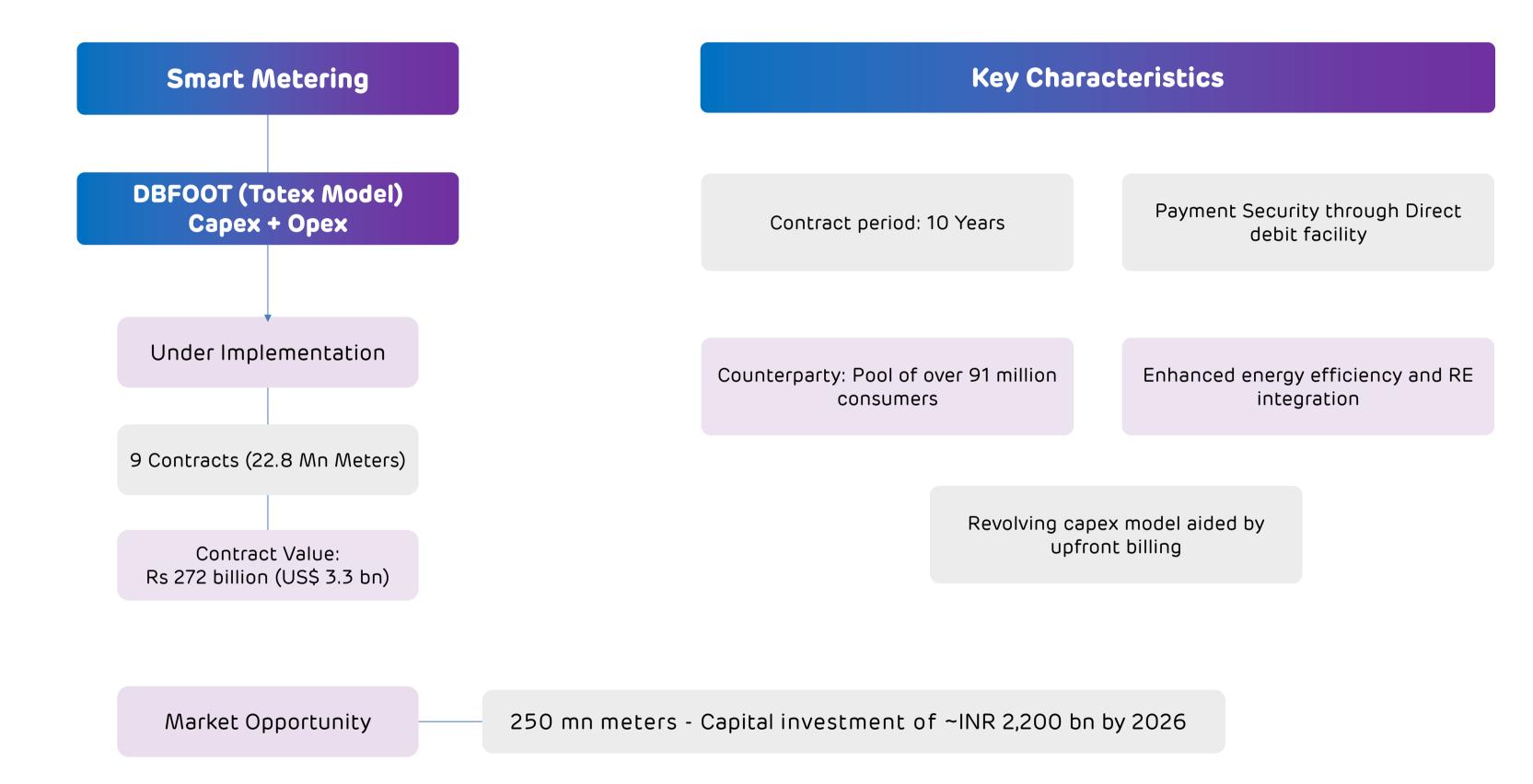




## Smart Metering

### Smart Metering Business





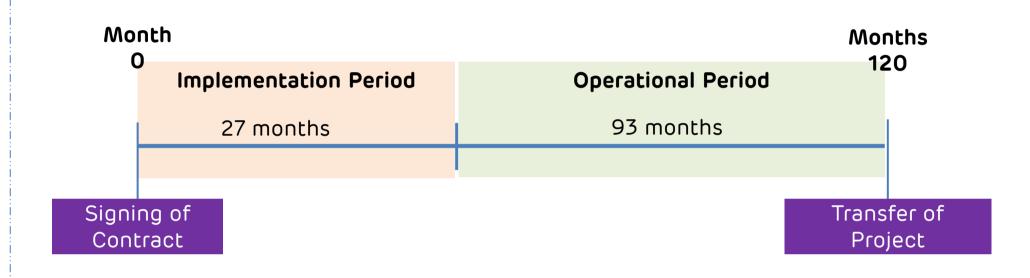
## Smart Metering Contractual Framework



#### Flow of Revenue for Smart Meter SPV Payment of **Electricity Bills** Payment Gateway Consumers Agent Bank Direct Debit Facility Supply of Agent Bank **Electricity** Payment of Smart Meter Charges **Smart Meter** Utility SPV/AMISP Smart Meter Deployment Contract

- 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

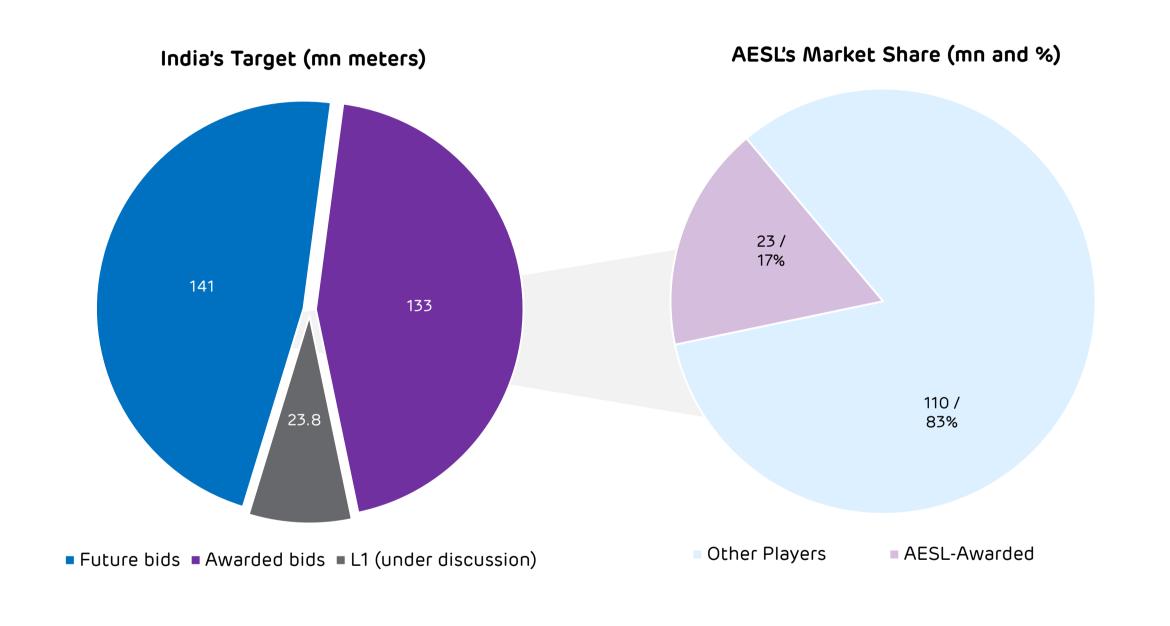
Payment Security
Mechanism through
Direct Debit Facility
Agreement (DDF)

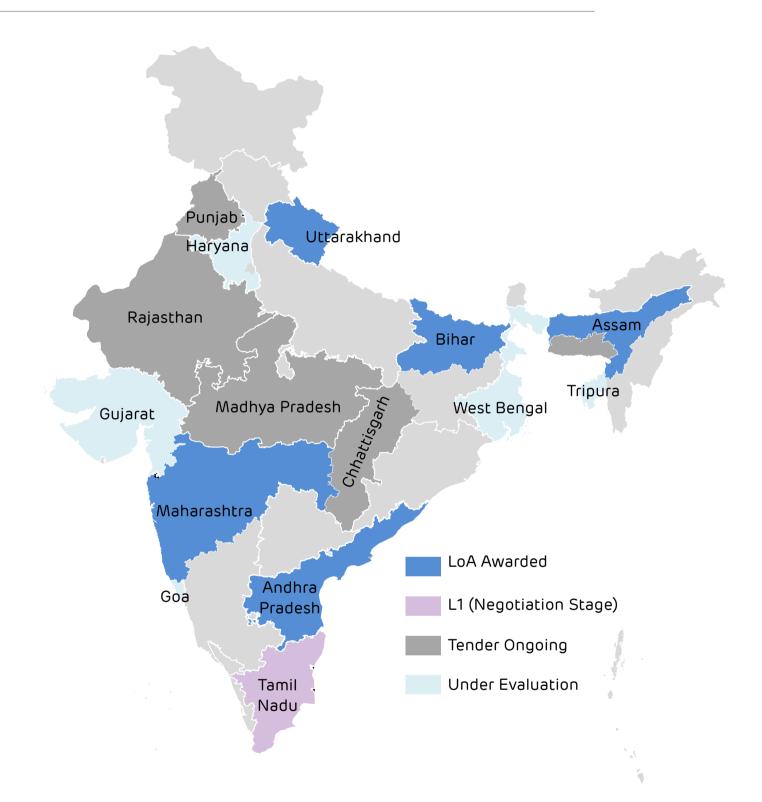
- A Quadripartite agreement ightarrow governs all payments due to AMISP
- Agreement uniform to all discoms, finalized by REC being the Nodal Agency
- Direct Debit facility include bucket filling approach  $\rightarrow$  all consumer bill payments will be routed through this account
- Irrevocable and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

### Smart Metering Opportunity



- Awarded (LOA) and Negotiation (L1) stage: 157 Mn Smart Meters
- Untapped market: 93 Mn Smart meters





AESL has an LOA for 22.8 Mn smart meter qty. with an order value of Rs 272 billion (US\$ 3.3 bn)

#### **AESL's Core Strengths and Available Synergies:**

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





## Cooling Solutions

## Cooling Solutions: DSC 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

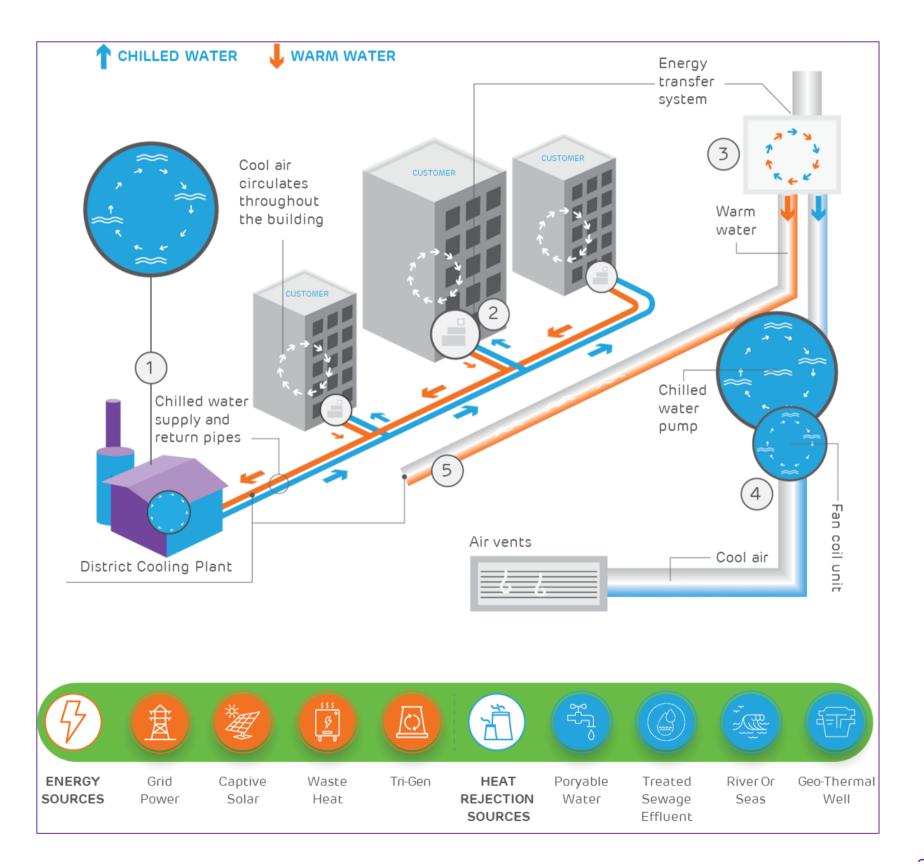
Energy Transfer Station (ETS) facilitates the heat transfer between the high-side chilled water circuit and low side (building) chilled water circuit with plate type heat exchanger to cool the building-side water.

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 airconditioning environment, which is predictable and efficient.

5

The warmer water from the ETS is returned to the central plant for re-cooling and recycling.



## Why District Cooling? - Business Rationale



## Changing Demographic and Economic Trends

- Large scale infrastructure development requires sustainable, energy efficient and low carbon cooling solutions
- Rising per capita income, urbanization, coupled with growing AC ownership to drive the cooling growth
- India's cooling demand projected to grow by 8 times in the next 20 years

## Growing Need for Alternative Cooling Solutions

- Standalone chiller system with requisite backup which will lead to higher capacities and associated costs
- Growing air-conditioning demand will choke-up the power supply in the medium term
- District Cooling reduces 25-30% primary energy consumption and leads to lifecycle savings of 25-30%

## Large Market and Existing Synergies

- Growing shift from distributed cooling to centralized cooling (deep penetration in the middle east)
- Opportunity to unlock potential in green-field infrastructure (Airports, Data Centers, SEZs, Residential Townships)

## Integrated Utility Offering

- AESL will offer DCS under Cooling as a Service (CaaS) model with end-to-end integration responsibility (DBFOT)
- Integrated power solution with tailormade sourcing from grid, wholesale or captive sources
- Tariff recovery through capacity charge and consumption charge

#### Low Carbon Future

- Sustainable Cooling Solution for a Low Carbon Future (25-30% lower emissions)
- Contribute to India's net zero target by 2070

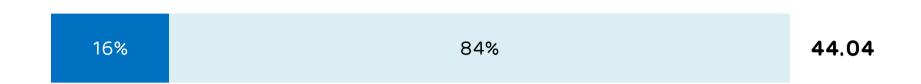
## Cooling Solutions Opportunity: Four key segments to drive DCS demand



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



To experience growth from 0.6 bn sqft (2019) to 1 bn sqft (2030)





Global industrial cooling market, expected to reach ~\$27 billion by 2030 @ CAGR of 5%



#### **Data Centers**

Data center cooling market growing @ CAGR of 22% to \$700 Mn over next 5 years



#### Airports

Indian air passenger traffic to double (vs pre-Covid level) by 2030



**AESL Focus Areas** 

An aggregate DCS demand potential of over 7.92 Mn TR by FY30







## **Business Philosophy**

## 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

**OUR BUSINESS PHILOSOPHY** 

#### **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





Bidding, Site Scouting



Project Development & Basic Engineering



Execution



Operations



#### Concept

#### Integrated Project Management



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**

- Integrating & providing cross functional support for Bidding Process
- Site Location Assessment, coordinating for field visits
- Bid stage scope finalization & technology adoption with engineering
- Bid Stage Cost Estimates
- In case of M&A's, collaborating and assessment of asset

#### **Project Development**

- Collaborates for Technology finalization & Scope
- Execution Strategy
- Contracting Strategy
- Detailed Project Report
- Coordinating for connectivity & evacuation
- Level 1 Project Schedule
- Capex Budgets and Estimates
- Risk Assessment & plan
- Procurement Planning
- Financial Closure Plans

#### **Project Execution**

- Integrated L3 Project Schedule
- Baselining Cost and Resource plans
- Issue & Risk Management
- Supply Chain Management and Contract
   Administration
- Contractor & Vendor Management
- Change Management
- Monitoring Approvals , Permits & Licenses
- Managing Lenders & LIE interface
- Cash Flow Management
- Project Monitoring & Control
- Mid Course Corrections (Catch up)

#### **Project Close Out**

- Facilitating the Handover & punch list closure
- Contract Closures
- Close Out Report
- Material Reconciliation
- Spares Handover
- Closure of LIE and Lender Reports
- Stakeholder Recognition
- Finalizing the Final Costs
- Ensuring built as per Drawings







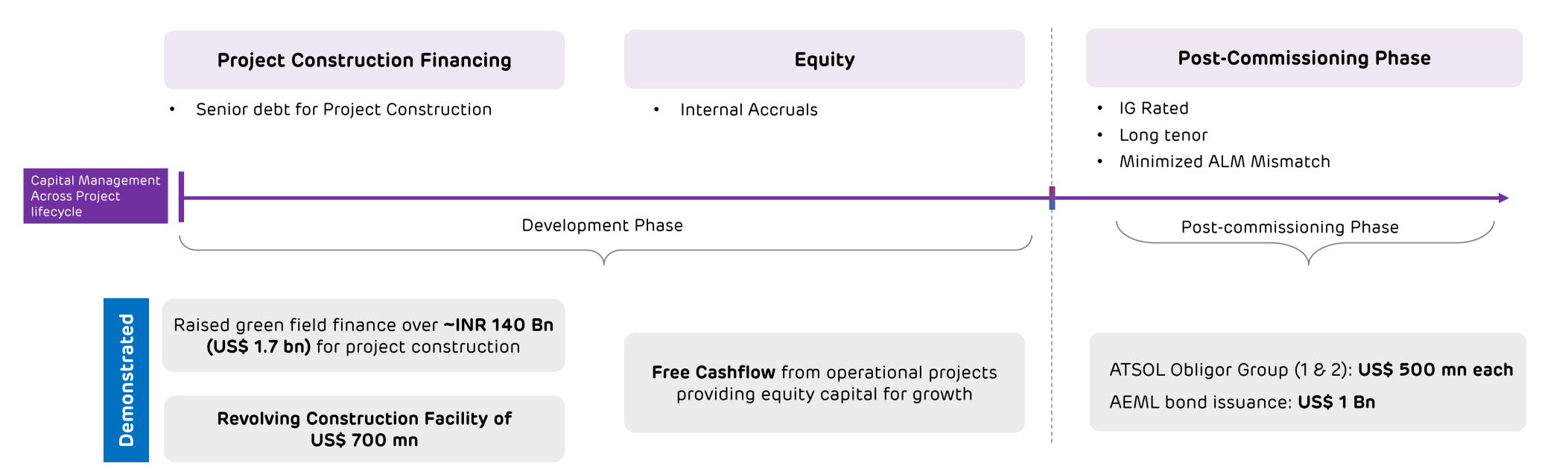
**Strong Project Controls** 

## 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







# ESG Framework, Investment Case and Board and Management

#### Assurance backed ESG framework







**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

- Environment & Energy as part of IMS policy Biodiversity Policy
- Energy Management System
- S

E

- Guidelines on Human Rights
- Corporate Social Responsibility Policy
- Occupational Health & Safety as part of IMS Policy
- **Board Diversity** G
  - Code of Conduct
  - Related Party Transaction Policy

#### Focus Area - UNSDGs









## 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 35% in FY24
  - GHG intensity [tCO2e/EBITA]: 48.5% reduction by FY 2029-30 w.r.t. FY 2018-19 baseline (tCO2e/EBITDA) (Targets have been aligned with National goal (tCO2e/GDP))
- 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 & Targets



#### **ESG Commitments**

- To be in Top 20 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

AESL Targets			
Indicator	FY25 Target	FY24 Status	
Ranking in Global ESG benchmarking of electric utility sector	Тор 10	Top 20 <sup>1</sup>	
Water positive sites	100%	<b>✓</b>	
Zero waste to landfill operating sites	100%	<b>✓</b>	
Single use plastic free operating sites	100%	<b>✓</b>	
No Net Loss of biodiversity	100%	In progress	

AEML Targets			
Indicator	FY30 Target	FY27 Target	FY24 Status
RE power purchase	70%	60%	35%
Emission intensity reduction <sup>2</sup>	70%	50%	In progress

- AEML achieved it's stated target of 35% RE purchase by FY24
- Green tariff and certificates offered to Mumbai customers for choosing green energy options
- Committed in the Companies Taking Action Table under SBTi

#### ESG Ratings, Awards and Recognition



ESG Commitments					
ESG Ratings	AESL's Rating				
<b>CSRHUB</b> ®	Ranking of 87%, with consistent ranking above <u>Electric &amp; Gas Utilities</u> industry average [911 companies]				
SUSTAINALYTICS  a Morningstar company	ESG Risk Rating of 'Medium Risk' with a score of 25.3 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				
DJSI-S&P Global Corporate Sustainability Assessment	S&P CSA as of November 2024: Scored 73/100 vs 62/100 in 2023, one of the best in Indian Electric Utility sector and significantly better than average World Electric Utility score of 42/100				
MSCI	ESG Rating of 'BB'				



FTSE reaffirms AESL as a constituent of FTSE4Good index series with an improvement in ESG score from 4.0 to 4.4 in 2024. Also, AESL's Governance score stands at 5/5, Social score of 4/5 & Environment score 4.3/5 well above global Electric Utilities sector average of 2.8

#### **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

#### **AESL**: Board and Management Team



#### **Board of Directors**

#### Independent Directors



#### Meera Shankar

**45+** Yrs of Experience Skill & Expertise

- Strategic comm.
- Policy Formulation
- Economic & Trade Relations



#### Lisa MacCallum

**25+** Yrs of Experience Skill & Expertise

- ESG
- Brand Strategy
- Global Affairs



K Jairaj







**45+** Yrs of Experience Skill & Expertise

- Sector Expert
- Governance
- Regulatory



#### Non-Independent Directors



Gautam Adani Chairman and Promoter Director

Skill & Expertise

- Entrepreneurial Vison
- Business Leadership



Rajesh Adani

Promoter Director

Skill & Expertise

- Business relationship
- Execution



Anil Sardana Managing Director

**40+** Yrs of Experience Skill & Expertise

- Industry veteran
- Strategic leadership
- Transition & Development

	Board Committees			
	100% IDs	Chaired by IDs	Chaired by NID	
Statutory Committees				
- Audit	$\checkmark$			
- NRC	$\checkmark$			
- Stakeholder Relationship		$\overline{\checkmark}$		
- CSR		$\checkmark$		
- Risk Management		$\checkmark$		
Non-statutory Committees				
- Public Consumer	$\checkmark$			
- IT & Data Security			$\overline{\checkmark}$	
- Corporate Responsibility	V			
- Mergers and Acquisition			$\checkmark$	
- Legal, Regulatory & Tax			$\checkmark$	
- Reputation Risk			V	

#### 40%

Comprised of only Independent Directors

#### 100% of

Statutory Committees Chaired by Independent Directors

Additional Business specific committees

#### 36%

Fully comprised of Independent Directors

#### 63%

Chaired by Independent Directors

#### Management



Kandarp Patel Chief Executive Officer

25+ Yrs of Experience in power trading, fuel mgmt., legal and commercial aspects of power industry



**Kunjal Mehta** Chief Financial Officer

20+ Yrs of Experience in corporate financing, risk mgmt., financial reporting, business partnering and process deployment,



## Annexures

41-44	ESG Initiatives
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49	Smart Metering – Key Benefits
50-53	Project Level Details – Asset Portfolio

### **AESL**: Key Environmental Indicators and Milestones



Key Performance Indicators	rformance Indicators Current Status Baseline		Short to Medium-term Targets		
Energy Mix & Emission Intensity					
- RE share in power procurement	AEML has <b>achieved 39.06% renewable</b> in power mix as of Sept 2024	3% FY19	60% by FY27	70% by FY30	
- GHG Emission Intensity Reduction	AEML has reduced its GHG emission intensity to <b>36.82%</b> ( <b>1424 tCO₂e/ EBITA</b> ) in <b>Q1FY25</b> . The target for GHG emissions reduction is in line with Nationally Determined Contribution (NDC) for climate change. Disclosed in terms of a reduction in GHG per unit of revenue.	FY19 2,254 tCO2e/EBITA	40% by EY25		
Waste Reduction and Biodiversity Management					
- Zero waste to landfill (ZWL)	<ul> <li>Secured ZWL status from Intertek &amp; BVCI</li> <li>Covered all operational sites (substations and TLs) of AESL</li> <li>Achieved landfill diversion rate exceeding 99%</li> </ul>	No certification in FY19-20	To maintain ZWL certification for AESL		
- Single use plastic (SuP) free sites	<ul> <li>Attained SUP free status from CII-ITC CESD</li> <li>Covered 37 operational sites of AESL</li> <li>Strengthening alignment with UNSDG 12</li> </ul>	No certification in FY19-20	To maintain SUP certification for AESL		
- India Business Biodiversity Initiative (IBBI) and ensure no net loss to biodiversity	<ul> <li>Signatory to IBBI and submitted first progress report in 2020</li> <li>Compensatory afforestation over 753 hectare till FY24</li> </ul>	FY20-21 289 hectares	Achieve Zero Net-Loss to Biodiversity. Achieve Net Positive Gain (NPG) in accordance with IBBI principles		
- Water Neutrality (Water conservation)	<ul> <li>Achieved "Net Water Positive" status for 30 substations and 07 TL clusters under UNSDG 6</li> <li>Carried-out rainwater harvesting feasibility study and implemented water metering across all sites</li> </ul>	No water neutrality in FY 19-20	Secured Net Water Positive ReCertification for all O&M sites		
Energy Efficiency and Management					
- Reduction in auxiliary consumption through solar power	<b>3.362 MWp solar capacity</b> at Mahendragarh, Akola, Koradi, Sami, Morena, Rajnandgaon	Solar capacity of 1.7 MWp in FY19-20	100% auxiliary consumption from renewable sources by 2030		

### **AESL**: Key Social Indicators and Milestones



Material Categories	Material Themes	Key Performance Indicators	Baseline	Actual (1HFY24-25)	Target (FY24-25)
Health & Safety	Work related injury	Rate of fatalities per million hours worked	Zero (FY 20-21)	Zero	Zero
		Rate of recordable work-related injuries per million man-hours worked	0.33 (FY 20-21)	0.23	Zero
	Safety awareness and training	Average hours of training provided per person on health and safety	15.6 (FY 20-21)	30.13 hours per person (FY 23-24)	Further improve from baseline
Diversity and Inclusion	Measurement of Diversity and Inclusion Metrics and Enforcement of policies	<ul> <li>Women as a percentage of new hires and total workforce (%)</li> <li>Mapping &amp; Disclosure of Regional &amp; ethnic diversity</li> <li>Mapping &amp; Disclosure of inclusiveness</li> </ul>	<ul> <li>New Hire: 5 %</li> <li>Total Workforce: 5%</li> <li>Regional &amp; Ethnic diversity: NO mapping</li> </ul>	<ul> <li>New Hire: 5.06%</li> <li>Total Workforce: 4.38%</li> <li>Regional &amp; Ethnic diversity: 100% mapping</li> </ul>	<ul> <li>New Hire: 30%</li> <li>Total Workforce: 6%</li> <li>Regional &amp; Ethnic diversity: 100% mapping</li> </ul>
Human Rights	Training on human rights	<ul> <li>Employees trained in human rights (%)</li> <li>Security Personal trained in human rights (%)</li> <li>Due diligence of business &amp; value chain</li> </ul>	-	100% new employees trained on human rights	100%
Skills for the future	Skill development trainings	Training and development expenditure for employees (Rs)	Rs 3.81 Cr (FY 20-21)	Rs 2.19 crore	Rs 4.69 Cr
Responsible Procurement	Proportion of spending on local suppliers (%)	<ul> <li>Spend on local suppliers against the total procurement budget (%)</li> <li>Due diligence of supply chain</li> </ul>	99.4 % (FY 20-21)	99.81% ESG Due diligence for all suppliers initiated	Maintain FY21 Performance
	Supplier screening on ESG metrics	Suppliers screened on ESG criteria (%)	100% (Critical New Suppliers)	All New suppliers	100% (Critical All Suppliers)

### **AESL**: Key Governance Indicators and Milestones



Material Categories	Material Themes	Key Performance Indicators	Baseline	Actions Taken and Goals
Board Gender Diversity	Board Gender Diversity	Balance the board composition in terms of men and women directors	16.6% - women directors in board as of FY21	<ul> <li>% of women directors in board improved to 33.3% (2 of 6 board members)</li> </ul>
Board Independence	Great Board Independence and Improved Disclosures	<ul> <li>Improve board strength and independence</li> <li>Incorporate non-statutory committees</li> <li>Enhance disclosures in board &amp; committee meetings</li> </ul>	<ul> <li>6 directors as of FY21</li> <li>Only statutory committees as of FY21</li> </ul>	<ul> <li>Board comprises of:         <ul> <li>3 (50%) Non-Executive &amp; independent</li> <li>2 (33%) Non-Executive &amp; Non-Independent</li> <li>1 (17%) Executive directors</li> </ul> </li> <li>Enhanced disclosures through formation of new committees with min. 50% IDs (CRC, RMC, PCC, IT &amp; Data Security)</li> <li>Committees chaired by Independent Directors</li> </ul>
Code of Conduct	Corruption and Bribery Cases	<ul> <li>Number of Corruption cases and Bribery and Associated Risks</li> <li>Adoption of Anti Corruption and Bribery Policy</li> <li>% of Governance body members and employees trained on anti-corruption</li> </ul>	• Zero corruption cases	<ul> <li>(Audit, NRC, STC)</li> <li>Company Adopted Anti Corruption and Bribery Policy</li> <li>Zero Case on Corruption and Bribery</li> <li>Identification and Assessment of risks</li> <li>Yearly DD for CoC for board, employees, suppliers &amp; ABAC policy</li> </ul>
Anti-competitive Practices	Fines and Settlements	<ul> <li>Fines or settlements paid related to anti- competitive business practices (Rs)</li> </ul>	Zero as of FY21	<ul><li>Zero in FY24 and beyond</li><li>Yearly ABAC due diligence</li></ul>
Customer orientation and satisfaction	Consumer Satisfaction	<ul><li>Affordable tariffs</li><li>Service reliability</li><li>Sustainable power</li></ul>	<ul><li>Distribution loss reduction</li><li>CSAT surveys</li><li>Reliability metrics</li></ul>	<ul> <li>Competitive tariff through RE power</li> <li>Option to switch to Green power tariff</li> <li>Advanced metering implementation for 20 million consumers</li> </ul>
Corporate Governance Standing	ESG Ratings	Improvement in ratings through improved disclosures and adoption of best practices	<ul> <li>CSA: 59/100 (2022);</li> <li>FTSE: 3.3/5 (2022)</li> </ul>	Achieved:  • CSA – 73/100 (Achieved 80.8/100 w/o MSA)  • FTSE: 4.4/5 (Achieved in June'24)

#### Notes

A) List of non-statutory committees – CRC: Corporate Social Responsibility & Sustainability Committee; PRC: Public Consumer Committee; Information Technology & Data Security Committee; RMC: Risk Management Committee; B) List of statutory committees: SRC: Stakeholders' Relationship Committee NRC: Nomination and Remuneration Committee; STC: Securities and Transfer Committee;

C) Sub-committees under Risk Management Committee: Mergers & Acquisitions Committee; Legal, Regulatory & Tax Committee; Reputation Risk Committee

#### **AESL:** Enhanced Safety Culture



#### Safety Initiatives During Q2FY25

- Safety training: 47,771 man-hours of safety training and awareness during Q2FY25
- Positive Safety Culture:
  - Conducted group safety campaign on energy isolation across various sites
  - o Organized category 5 (fatality) incident stand-down meeting across AESL and AEML sites
  - Safety Management System audit was conducted at HVDC project site
  - Installed pilot feeder indicators in the existing switchgears at a distribution substation to mitigate the operational risk
  - Conducted mock drills and training sessions on emergency management systems and first aid
  - Executed quarterly safety performance assessments for O&M and project contractors across various sites
- **Sampark'** An outreach program designed for AEML customers to understand their safety and commercial concerns.
- 'Saksham' Mandatory Contractor Workmen Incubation & Induction Program was conducted at various project sites to enhance training effectiveness. Trained 1,047 contract workers and employees across the project sites

#### Safety Performance in Q2FY25

	Transmission		Distribution (AEML)	
Safety Parameters	Q2FY25	Q2FY24	Q2FY25	Q2FY24
Near Miss Reporting (Awareness)*	312	1,326	1,304	912
Suraksha Samwad (Safety Dialogue)#	1,156	1,578	2,025	2,246
LTI	1	1	1	3
Fatalities	0	0	0	0
LTIFR (LTI Frequency Rate)	0.33	0.35	0.15	0.59
LTI (LTI Severity Rate)	4.06	3.58	4.29	11.11
Safety training (in Man-Hours)	20,169	34,633	27,602	21,366





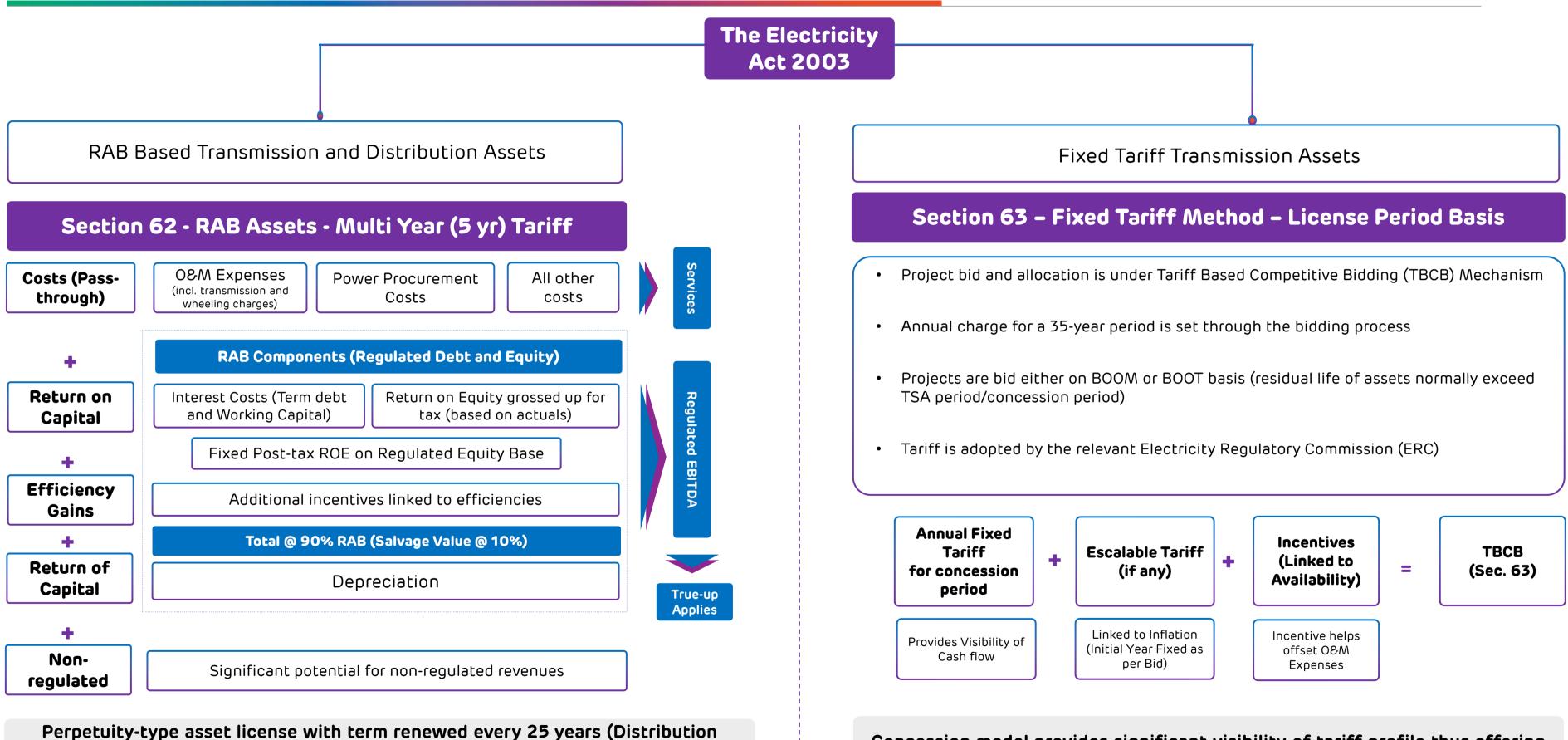


#### Stable Regulatory Framework

business) and well-established tariff setting mechanism with fixed ROEs on

Regulated Equity Base





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

### Payment Pooling Mechanism Reduces Counterparty Risk



#### Regulatory landscape

CERC and SERC established & predictable in maintaining and defining tariffs

- CERC and state regulatory body (e.g., MERC, RERC) determine:
  - Return on assets (ROA)
  - Adopt TBCB tariffs
  - Incentive triggers

#### **MYT** Determination

- CERC 20 years track record
- MERC 19 years track record

- CERC, MERC and other ERCs have a Long-Standing History of Maintaining and Defining Tariffs
- Establishes norms for capital and operating costs, operating standards and performance indicators
- Additional cost pass through via true up mechanism for section 62 RAB assets

#### Transmission: Payment Pooling Mechanism Reduces Counterparty Risk

### Transmission System Users

All demand / drawal nodes

All generator / injection nodes



Billed as single charge per Generator / Demand Node Payment (MW / month)



### Central Payment Pool

CTU (PGCIL) / STU acts as revenue aggregator



Billed as per regulatory / bid tariff profile



### Transmission Licensees

PGCIL + Private
Sector Transmission
Licensees



- Tariffs for all transmission licensees are collected by either the CTU (for Inter-state Transmission System) or the STU (for Intra-state System)
- All collections have to be mandatorily distributed in proportion to respectively yearly ARR of each licensee
- No discretion to CTU/STU to withhold payments
- Pooling mechanism ensures no stranded asset risk i.e. no bilateral counterparty/user

# 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



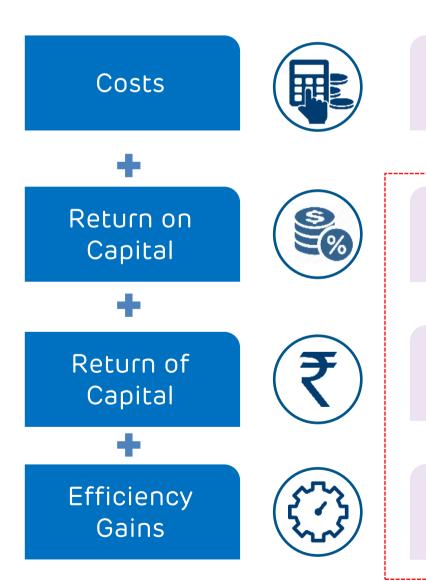
Incorporated in 1999, MERC is the regulator for consumer of Maharashtra

Assured return on regulated asset base

Normative costs pass-through → Efficiency rewarded

Efficiency linked incentives

Regular True Up mechanism



O&M Expenses

Interest Costs (Term debt and

Working Capital)

Power Procurement Costs

All other costs

Return on Equity grossed up for tax

Depreciation

Additional incentives linked to efficiencies

**EBITDA** 

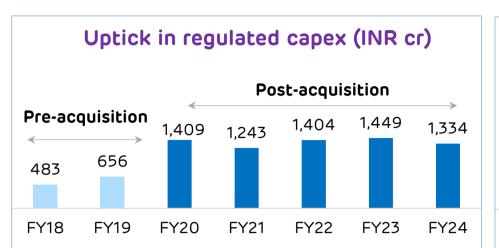
### AEML Case Study: Successful Acquisition and Turnaround

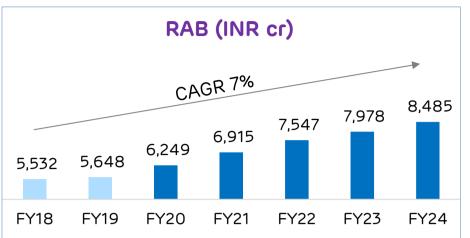




Projection Execution Excellence

- Low capex pre-acquisition on account of liquidity constraints
- Investment in capex resulting in asset hardening -> supply reliability and higher efficiencies
- One of the highest ever regulated asset development in the Covid period



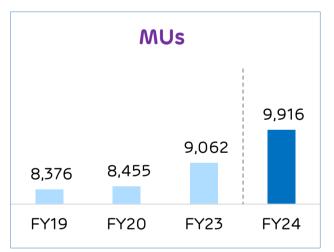




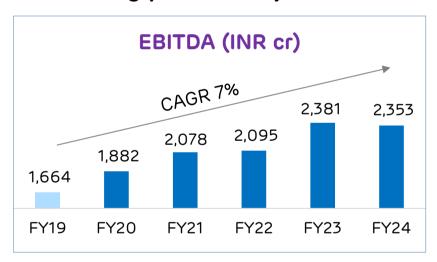
Consistently delivering

Operational excellence

### Consistently delivering power

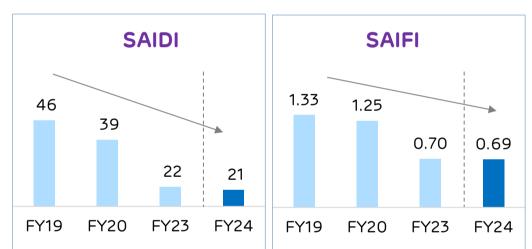


### Operating assets at increasing profitability

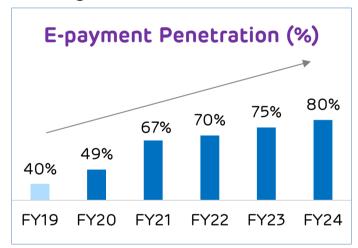


- Best practices implemented with technology integration to ensure supply reliability, responsiveness as well as profitability

### Best O&M practices →improved supply reliability at 99.99% every year



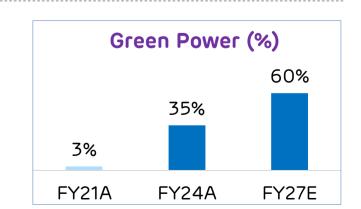
### **Higher digital penetration** among consumers





#### Sustainability

- Sustainability is a key focus area post-acquisition to transform AEML into a world class utility
- AEML signed 700 MW wind-solar hybrid PPA which increased renewable share from 3% to 35% in FY24
- First time ever covenanted sustainability linked framework by a utility in India



#### 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-peruse model" to eradicate arrears
- Reducing working capital requirements



Customer Satisfaction

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



Reduction in Operational costs

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



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
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

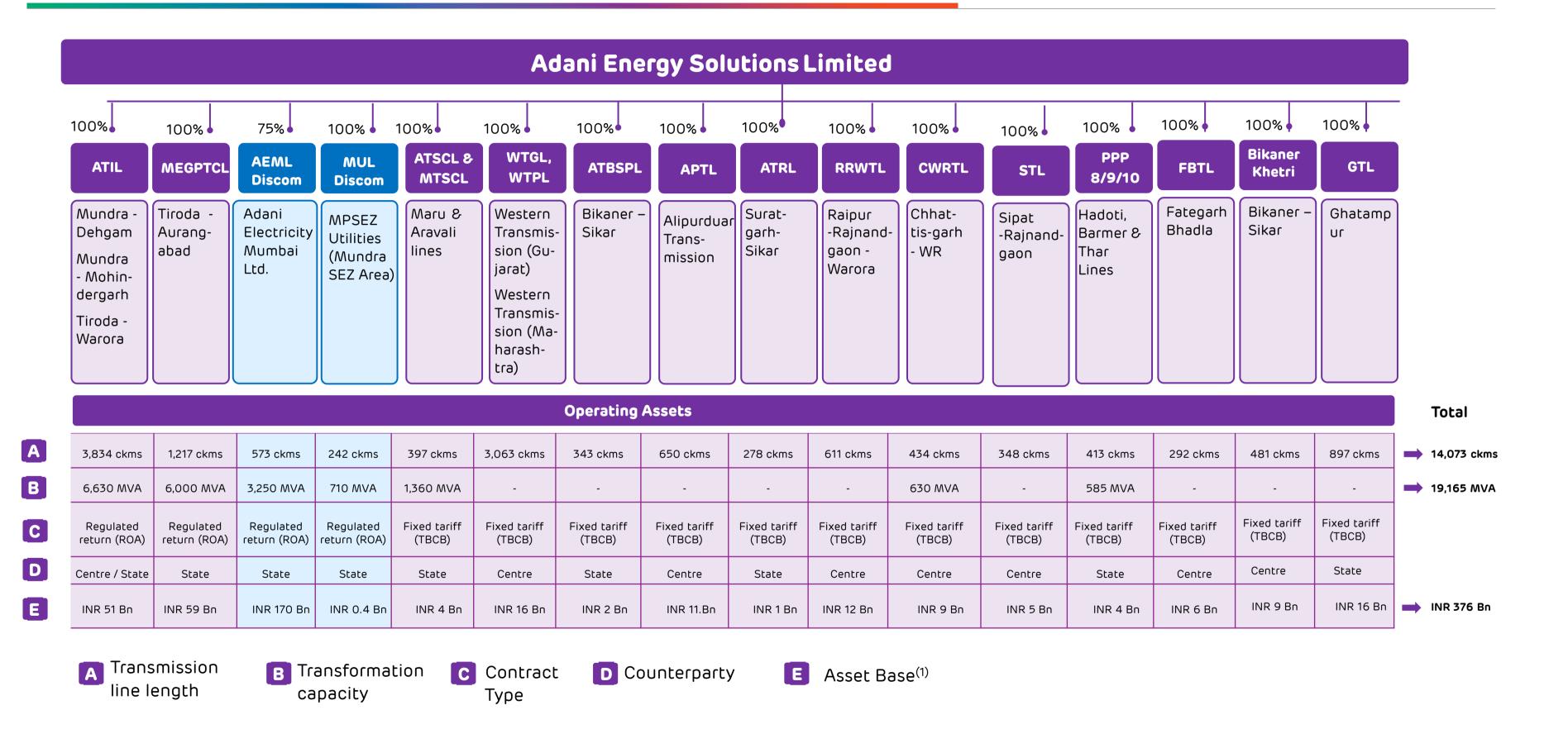


Improved
Energy
Accounting

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

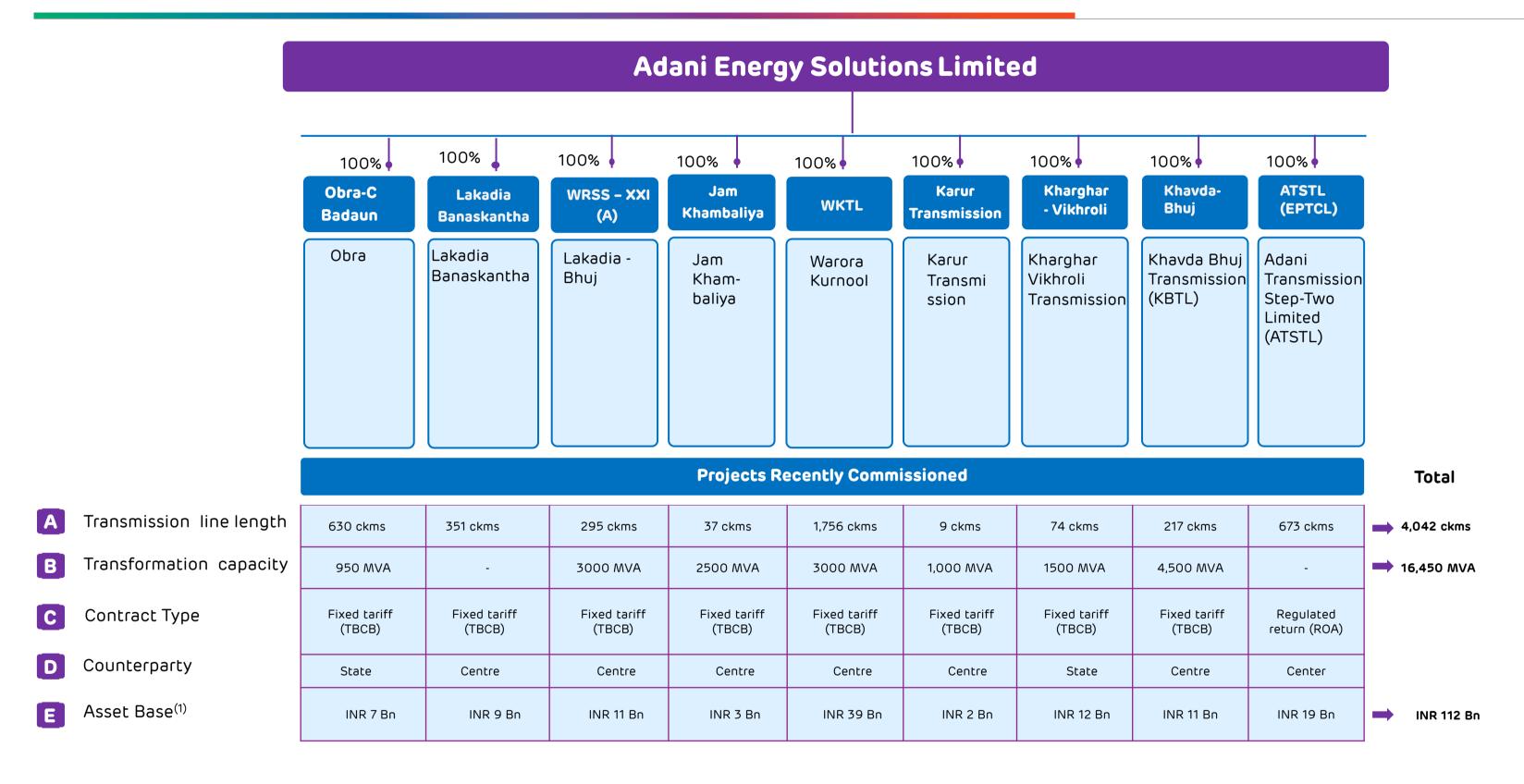
### AESL's Operational Asset Portfolio as of October 2024 (1/2)





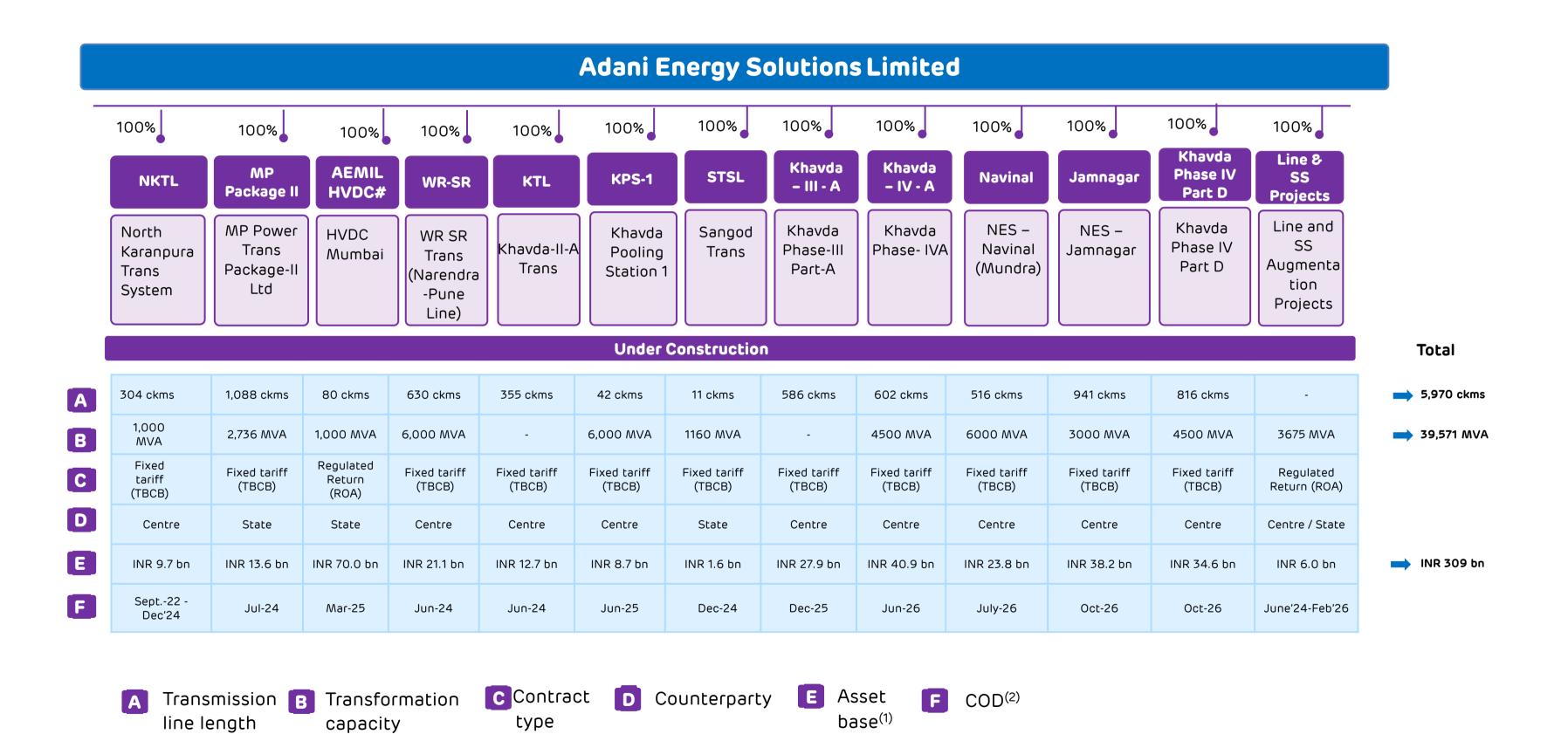
### AESL's Operational Asset Portfolio as of October 2024 (2/2)





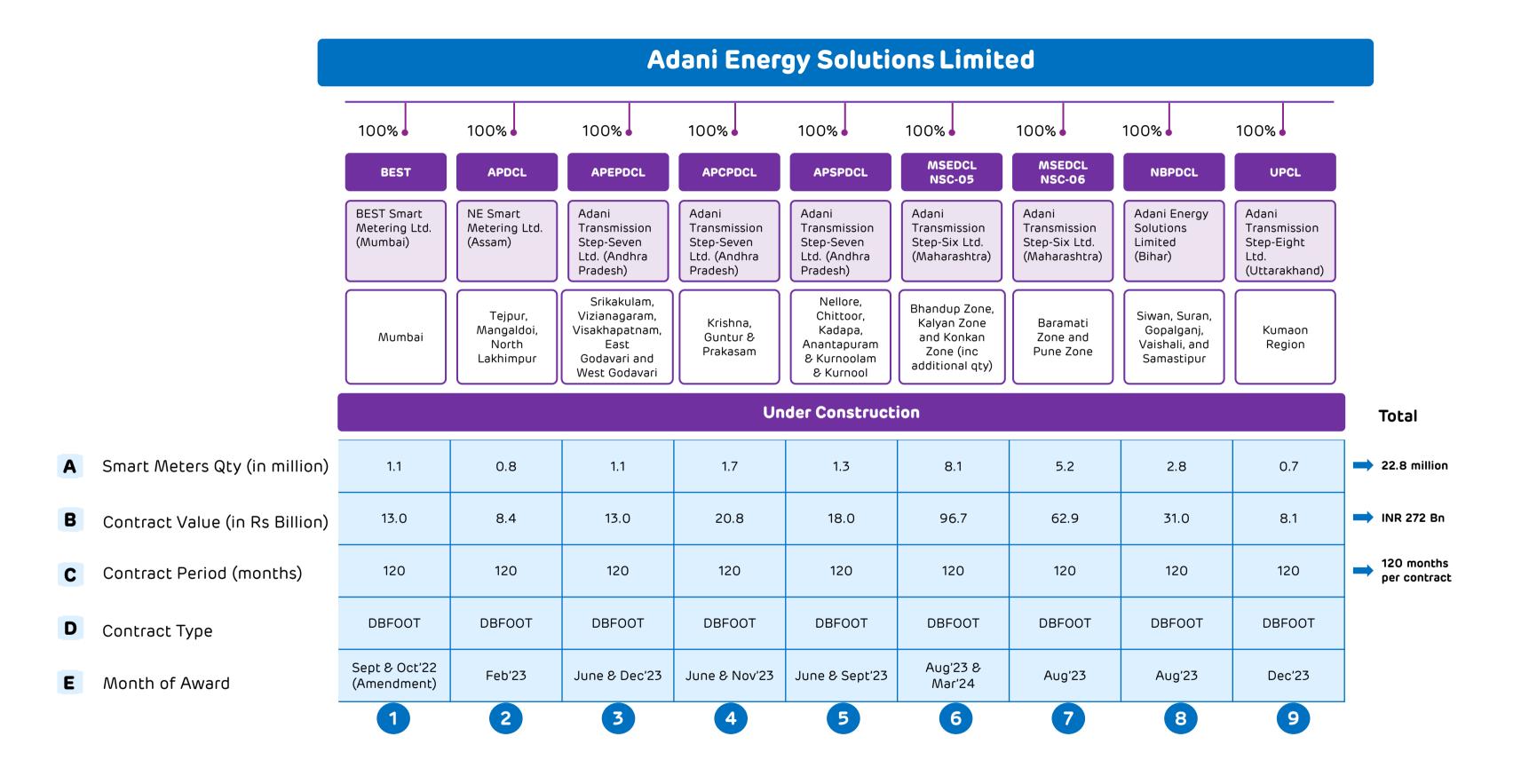
#### AESL's Transmission Under-construction Asset Portfolio as of October 2024

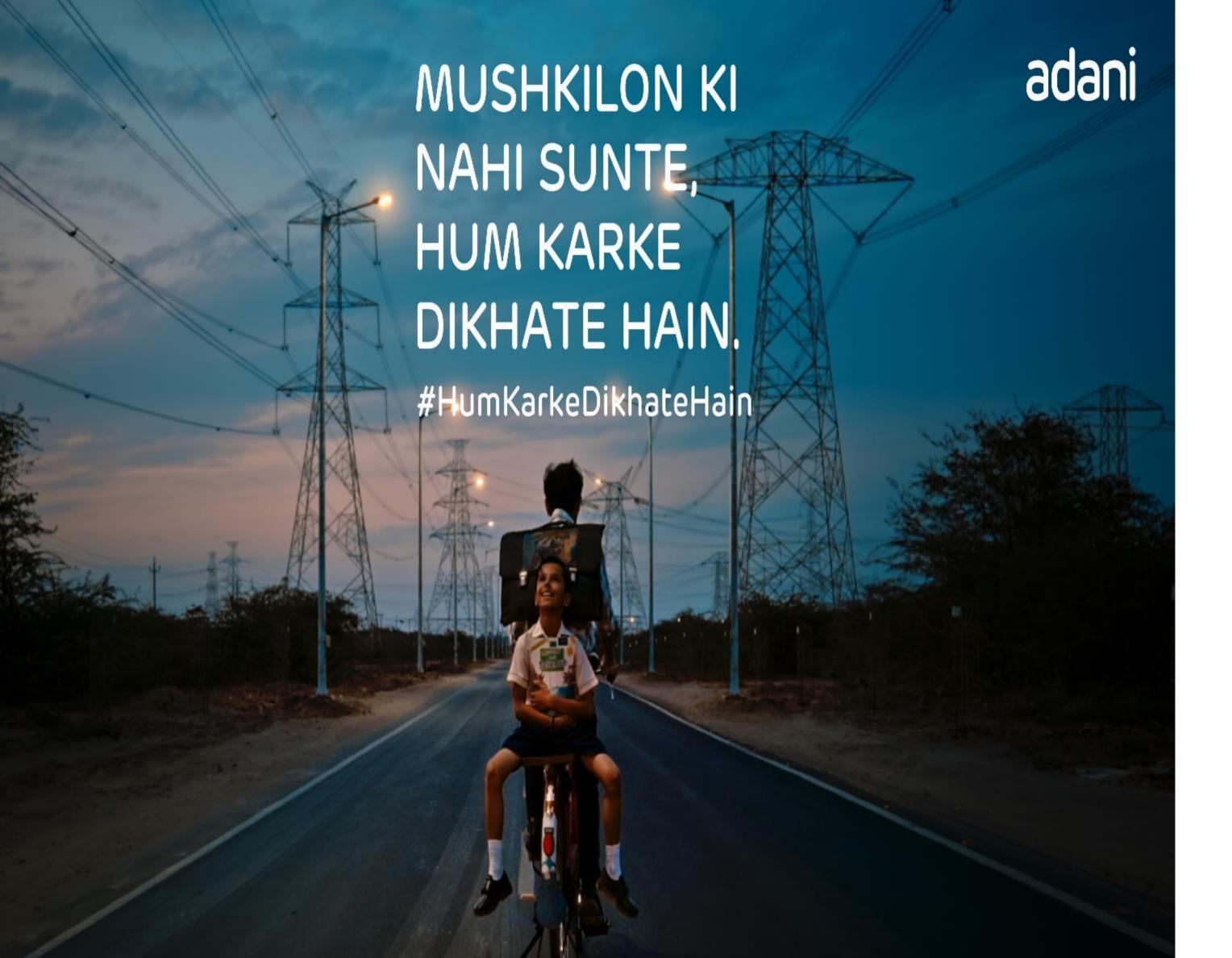




#### AESL's Smart Metering Under-construction Portfolio as of October 2024











# Thank You