

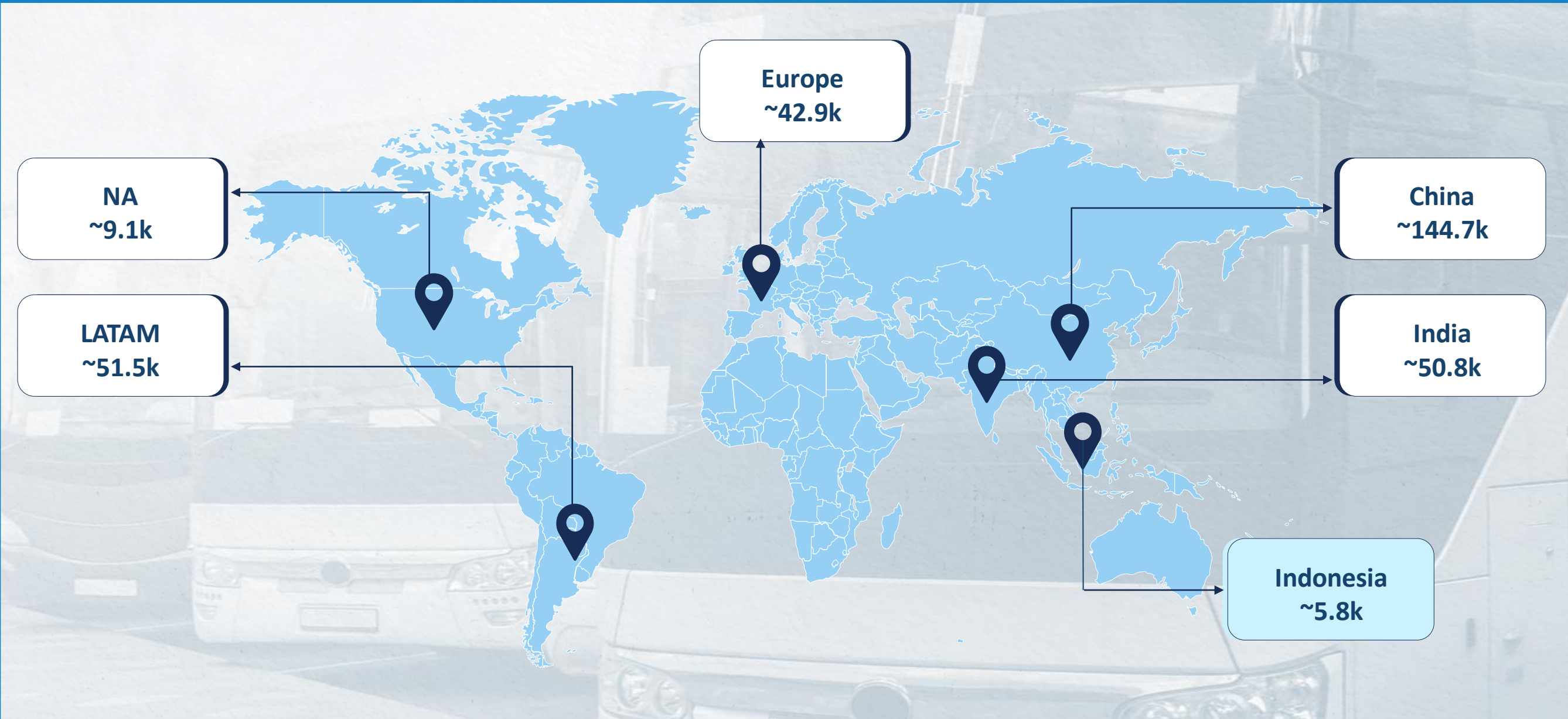
BUSWORLD FOUNDATION INDONESIA F&S MARKET PERSPECTIVES



Presenter: Thurisina (Senior Consultant)

SNAPSHOT OF GLOBAL BUS MARKET BY REGION IN 2028

Global Bus Market: Unit Shipment Forecast by Region, Global, 2028



KEY TRENDS IN INDONESIAN MARKET



Indonesia and Thailand to Become Pivotal Production Hubs



Increased EV and Local Content



Global Green Vision - Mobility Sustainability



Industry Convergence



Investment Opportunities for Integrated Supply Chain

INDONESIA – GREEN TARGETS

1

Targets Net zero emissions by 2060



2

GHG Reduction



3

Replace Transit buses by eBuses



4

Change in Energy Mix from Coal and Crude Oil

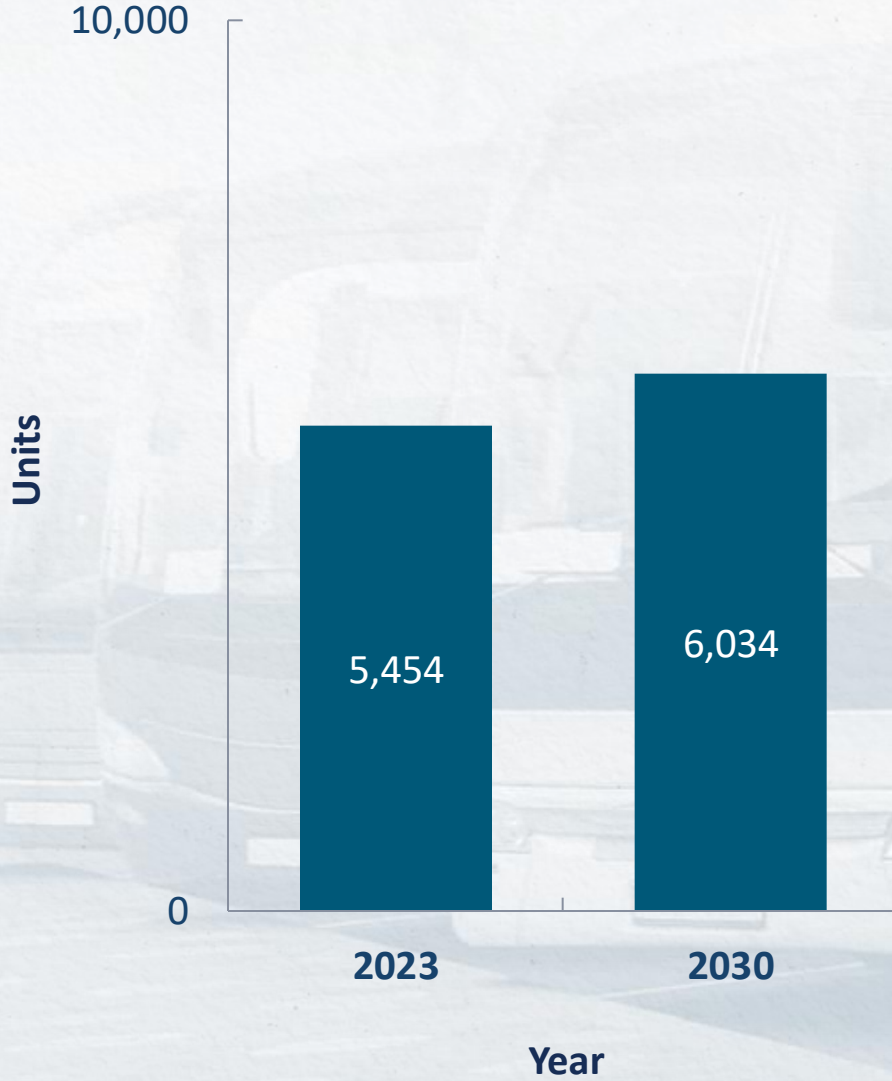


INDONESIA – GREEN VEHICLE INCENTIVES

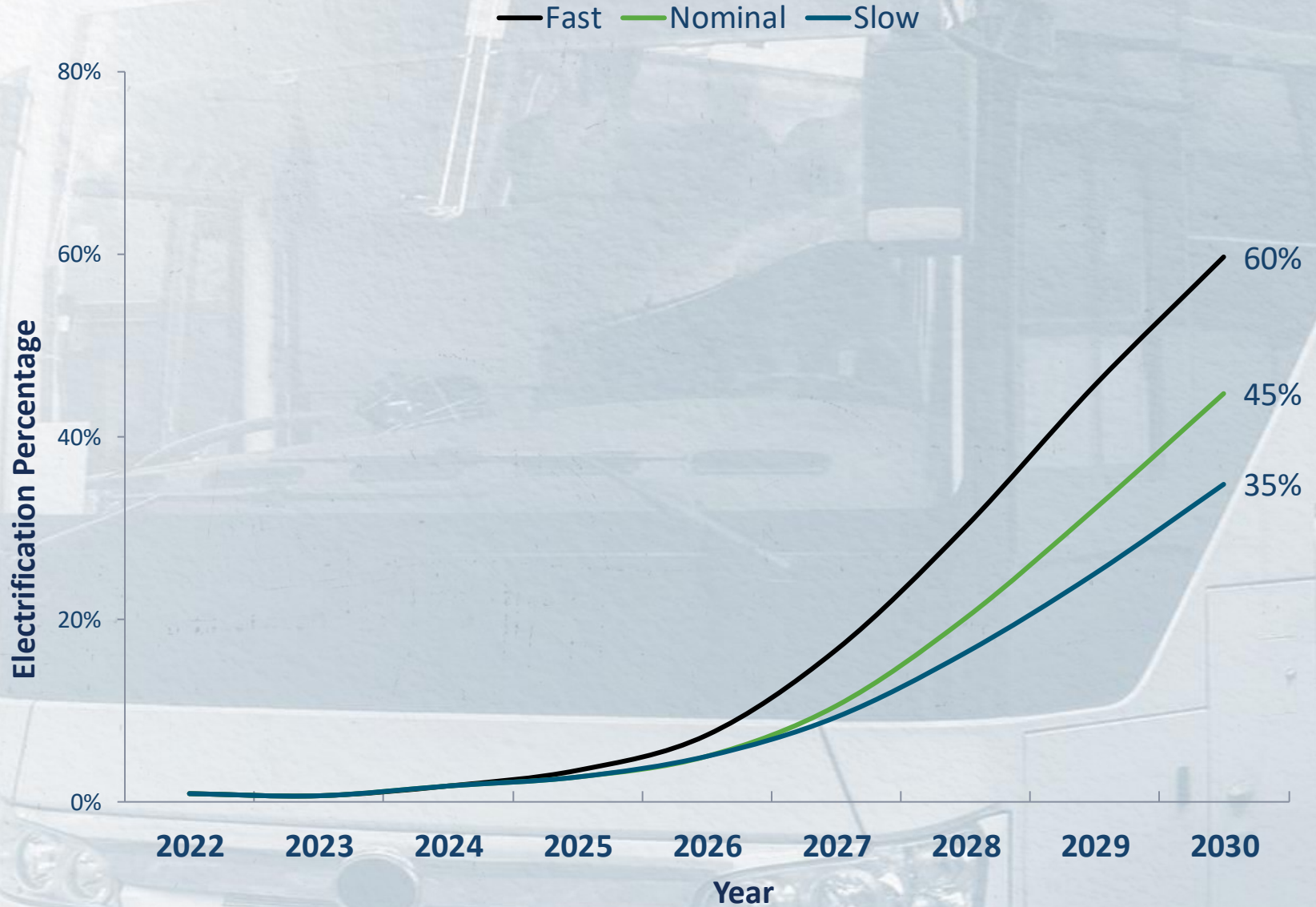
Policy	Remarks
Import tax waiver	Waiver of import tax until 2025, on CBU EV imports.
VAT reduction	<p>A reduction in value-added tax on the sale of EV; VAT incentive (extend from end 2023 to end 2024):</p> <ul style="list-style-type: none">- Electric buses with > 40% local components will be granted a 10% VAT subsidy (equivalent to only pay a VAT rate of 1%)- Electric buses with 20%-40% local components will be granted a 5% VAT subsidy (equivalent to only pay a VAT rate of 6%)
Tax Holiday	<p>Deduction of corporate income tax on income from main business activities (include manufacturers of motor vehicles and their main components) amounts to 100% of the total corporate income tax payable, for 5 years-20 years (based on investment value). Besides, another 50% discount on corporate income tax for the next 2 years.</p>
Tax Allowance	<p>A tax allowance of up to 30% of investment value and a reduction of corporate net income tax for the following 6 years, amounting to 5% each year.</p>

BUS MARKET—ELECTRIFICATION FORECAST, INDONESIA

Bus Forecast of Indonesia, 2023 & 2030

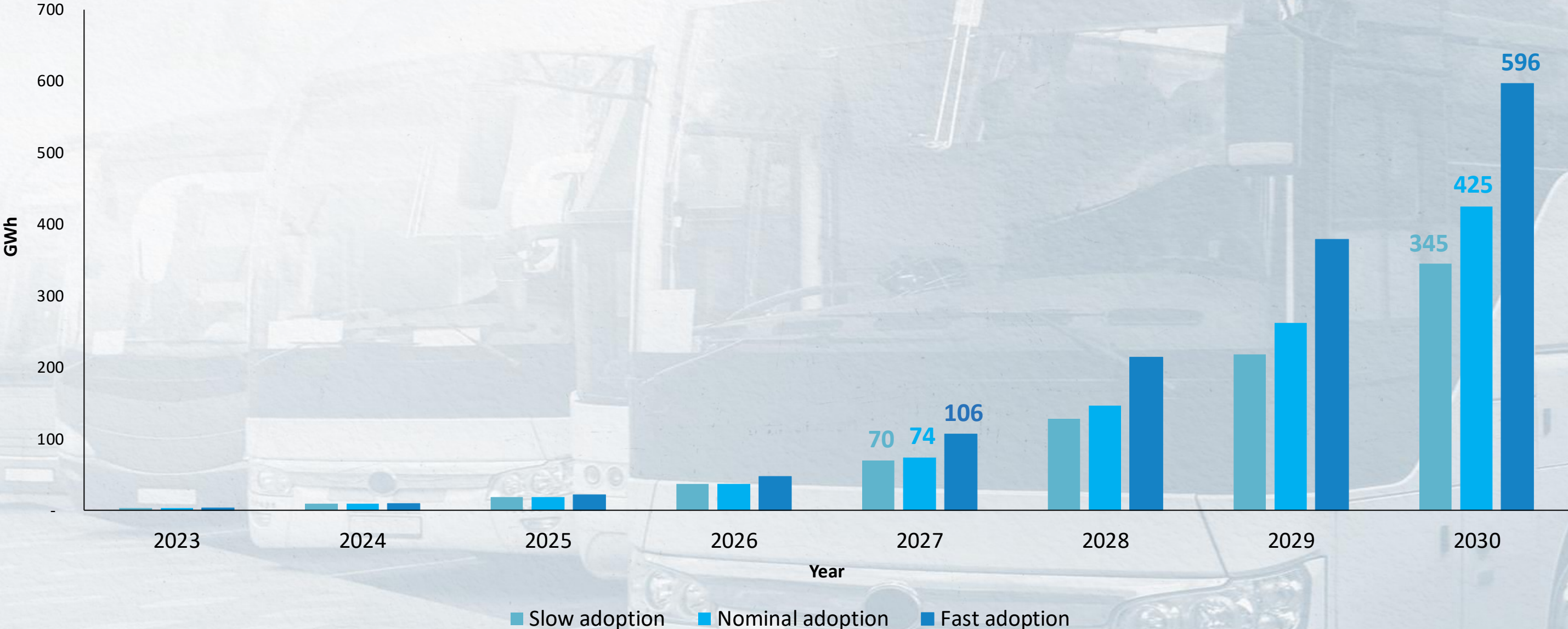


Electrification Penetration in Indonesia Buses



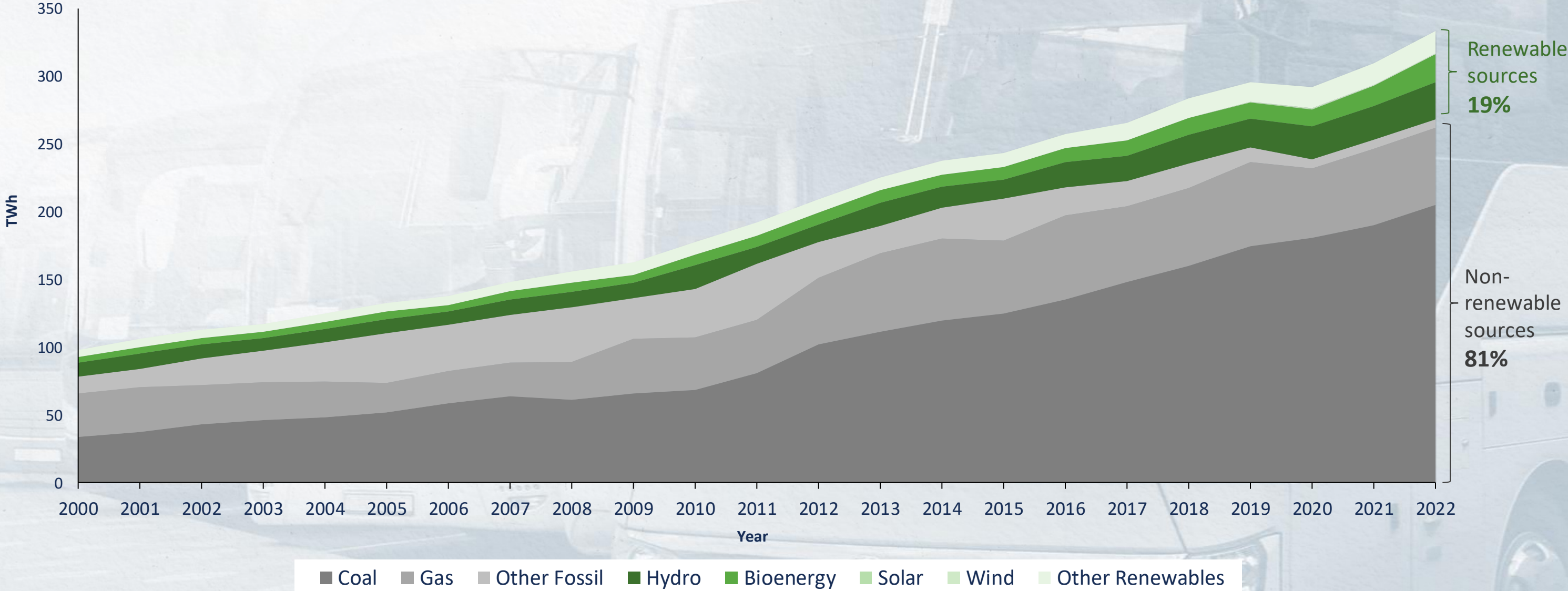
TOTAL ELECTRICITY DEMAND FROM E-BUSES

Electricity demand from E-BUS VIO, 2023 to 2030



ELECTRICITY GENERATION BY SOURCE – INDONESIA

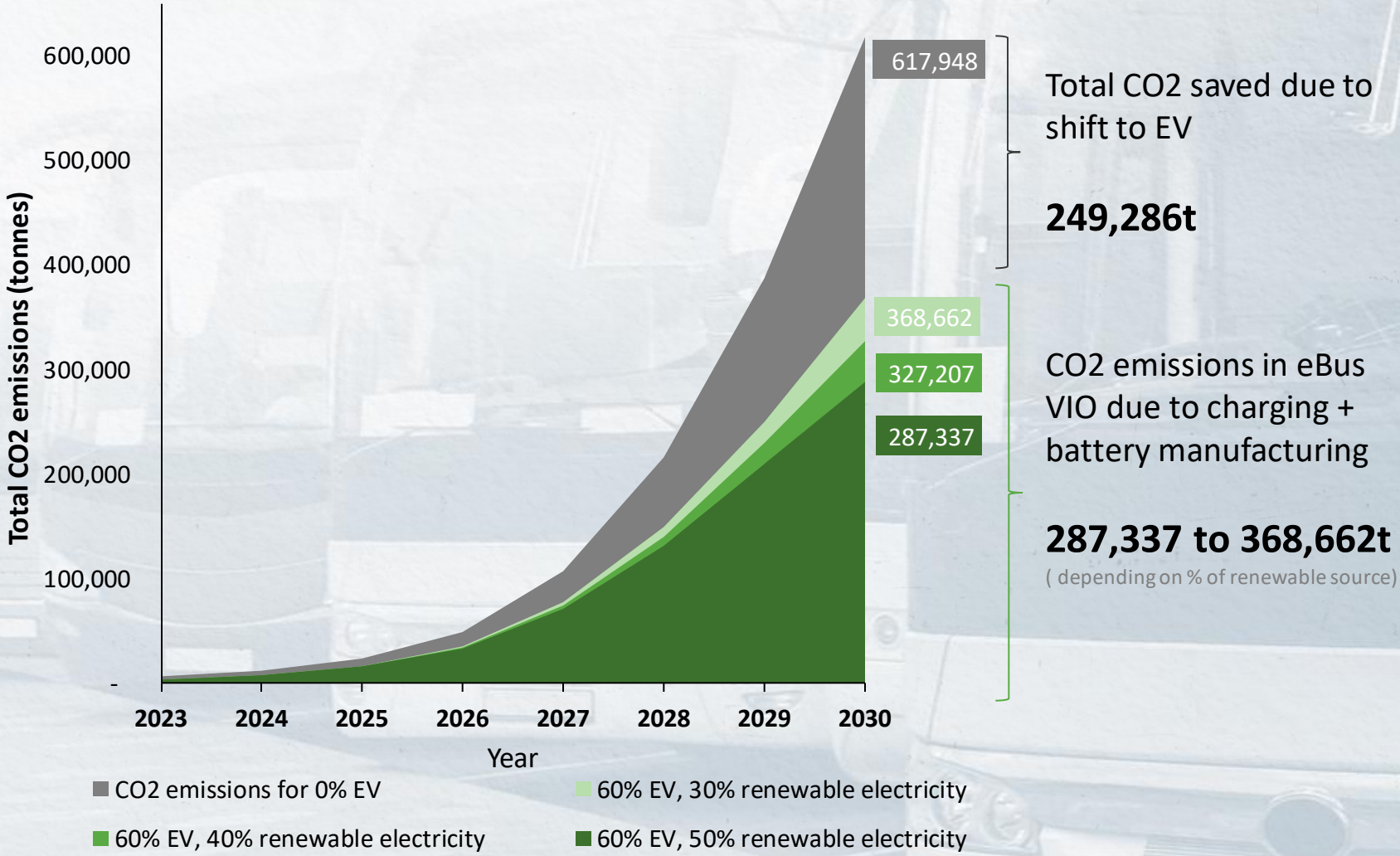
Total electricity generation by source (GWh), 2001 to 2022



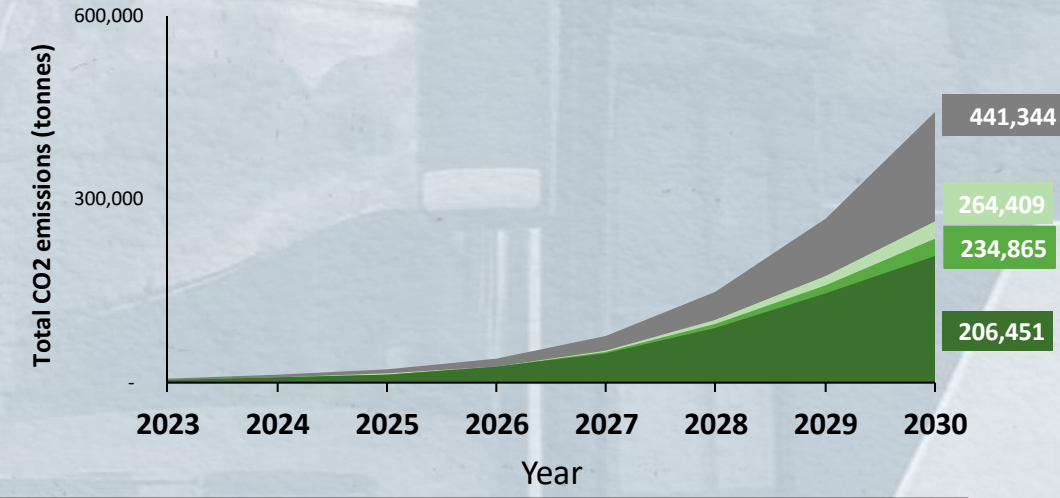
CO2 EMISSIONS FOR ELECTRIC BUS VIO – INDONESIA

Total kgCO2 emissions for different scenarios of EV penetration and shift to renewable energy, 2023 to 2030

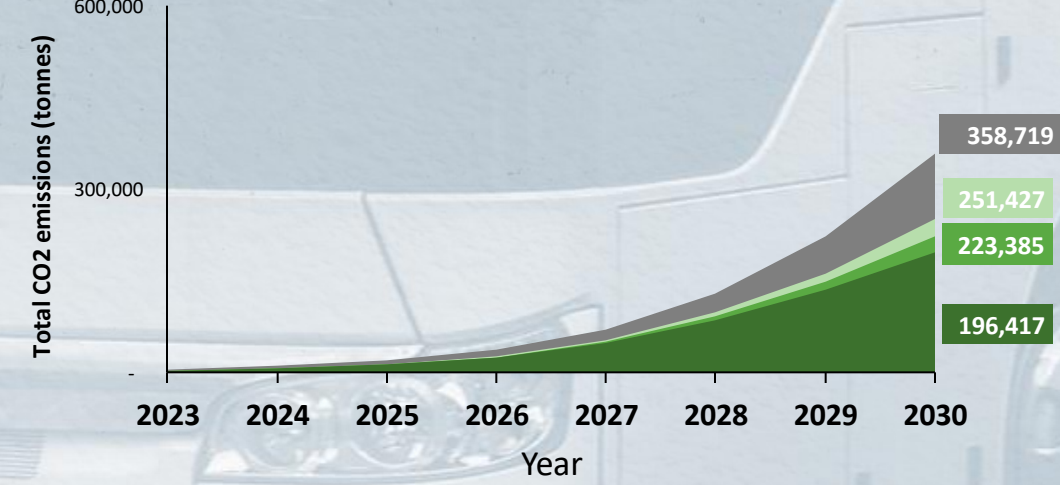
60% EV penetration - 2030



45% EV penetration - 2030



35% EV penetration - 2030

























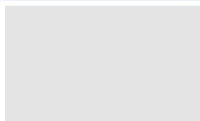

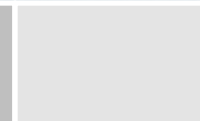
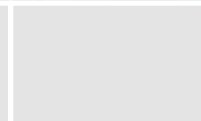
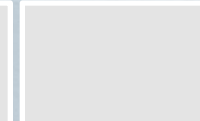
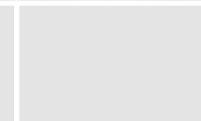
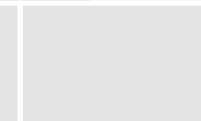










INDONESIA – ELECTRIC BUS ECOSYSTEM





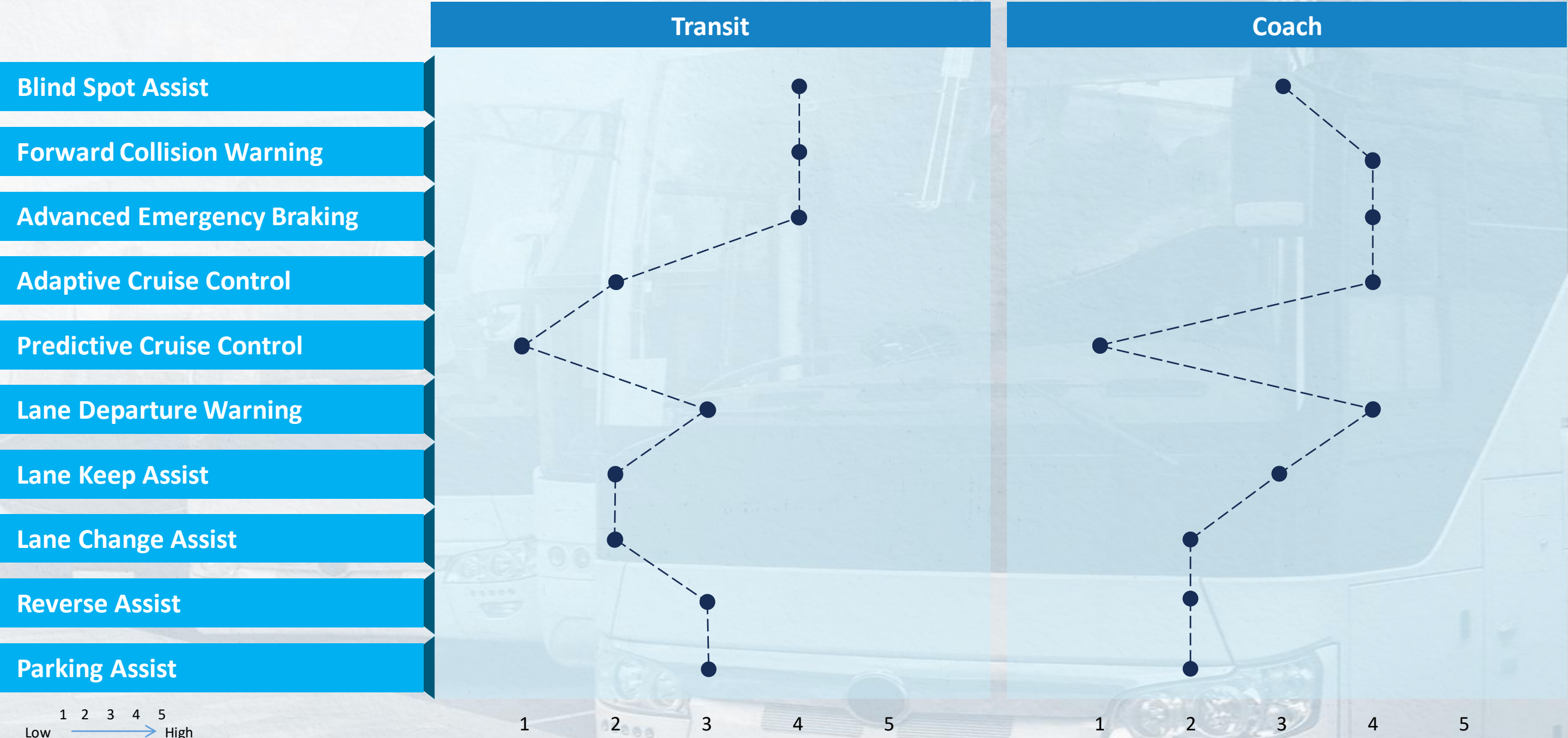
ADAS

OVERVIEW OF DRIVER ASSISTANCE SYSTEMS

	Collision Avoidance 			Cruise Assistance 		Steer Assistance 			Park Assistance 		
	Blind Spot Assist	Forward Collision Warning	Advanced Emergency Braking	Adaptive Cruise Control	Predictive Cruise Control	Lane Departure Warning	Lane Keep Assist	Lane Change Assist	Reverse Assist	Parking Assist	Depart Assist
Functionality 	<ul style="list-style-type: none"> Detection of stationary and moving objects in front of the vehicle and blind spots Audible, Visual, or Haptic warning systems Emergency braking to prevent collision if driver does not act in time 			<ul style="list-style-type: none"> Adaptive cruise with stop & go functionality Vehicle following Predictive powertrain optimization based on topography data for fuel savings 		<ul style="list-style-type: none"> Detection of lane markings Return steer assist in case vehicle deviates from the set lane perimeter without a turn signal Lane Departure Braking functionality with assistance from collision avoidance systems Automated lane change 			<ul style="list-style-type: none"> Vehicle reversing at low speeds Assistance in tight and narrow lanes or corners Rear end collision prevention Automated vehicle parking Automated loading or unloading bay coupling Automated depart assist 		
Technology Maturity Level 											
Availability across products 											
Safety Impact 											
Customer Attractiveness 											



DRIVER ASSISTANCE SYSTEMS – FAVOURABILITY BY APPLICATIONS





FROST AND SULLIVAN BUS MARKET THEMES



1



ELECTRIC / SUSTAINABILITY THEME

- Global **Electric Transit and Coach bus**
- **Electric Drivetrain Architecture** report
- Electric bus **charging infrastructure**

2



CONNECTED/ADAS THEME

- **Connectivity** in NA and EU Transit Bus and Coach Market
- **Bus ADAS** in NA and EU Market

3



REGIONAL MARKET THEME

- **European** Bus Market
- **African** Bus Market
- **China** Bus Market
- **LATAM** Bus Market
- **Turkey** Bus Market

4



TOTAL COST OF OWNERSHIP THEME

- **Transit Bus TCO Analysis** – Battery electric vs Fuel Cell vs Diesel vs Natural Gas
- **Coach Bus TCO Analysis**
- **School Bus TCO Analysis**

5



HYDROGEN/ FUEL CELL THEME

- NA and Europe **Fuel Cell Bus Market**
- **Hydrogen Charging Infrastructure**

6



SCHOOL BUS THEME

- **Global School Bus Market**
- North America **School Bus DRT Market**

7



Co2 EMISSIONS THEME

- Life Cycle emissions of **Battery Electric Bus**
- **Life Cycle Emissions** of Fuel Cell Electric Bus

8



OEM PROFILE THEME

- **European Bus OEM Profiles**
- **Fuel Cell Bus OEM Profiles**
- **School Bus OEM Profiles**
- **Turkey Bus OEM Profiles**

THANK YOU

Contact Us

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