

May 2025

Quarterly Market Dynamics for EV & Battery

Q1 2025

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– Volkswagen Group	– SK on	
– HKMG	– CATL	
– Mercedes–Benz Group	– BYD	
– BMW Group	– Panasonic	
– GM Group		
– Stellantis Group		
– SAIC Group		
– Geely Group		

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Global

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Stock repurchase policy, the global XEV stock repurchase rate is expected to reach 55% in 2020. (Growth of stock repurchase rate: 20.0% in 2015, 22.0% in 2020, 10% in 2027)

- China of which the FV penetration rate is highest in the world showed a 32.9% growth in 2023 and is regarded as a country where the popularization of NEVs has been

- Europe, showing a 0.3% degrowth in 2024, saw a decline in demand for EVs as Germany has already seen a relatively higher rate of EV sales compared to other European

- Since the inauguration of President Donald Trump, the North American region showed a slowdown in growth; 10.2% in 2024. The growth of EV market in North America is

- In other regions than China, Europe, and North America, the growth of xEV market was 21.1% in 2024 thanks to the expansion of EV line-ups and export from China of

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1. xEV Market Trend and Outlook (~'27)

1.1 Global xEV Market Trend and Outlook

1.2 xEV Market Trend and Outlook by Region

- China
- Europe
- North America
- Asia and Others

1.3 xEV Sales Trend and Outlook by Major OEMs

- TESLA
- BYD
- Volkswagen Group
- HKMG
- Mercedes-Benz Group
- BMW Group
- GM Group
- Stellantis Group
- SAIC Group
- Geely Group

1.1 Global xEV Market Trend and Outlook

Global xEV Market Trend

- Since recording a high growth of 109.5% in 2021, the global xEV market has been recording a series of lower year-on-year growth rates → demands from early adopters already terminated
-
-

Global EV(BEV+PHEV) Annual Sales



1.1 Global xEV Market Trend and Outlook

Global xEV Market Trend

- Since the explosive market growth in 2021, the market has been experiencing an obvious slowdown, but the growth rate itself has been double-digit in all those years. The significant
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Global EV(BEV+PHEV) Quarterly Sales

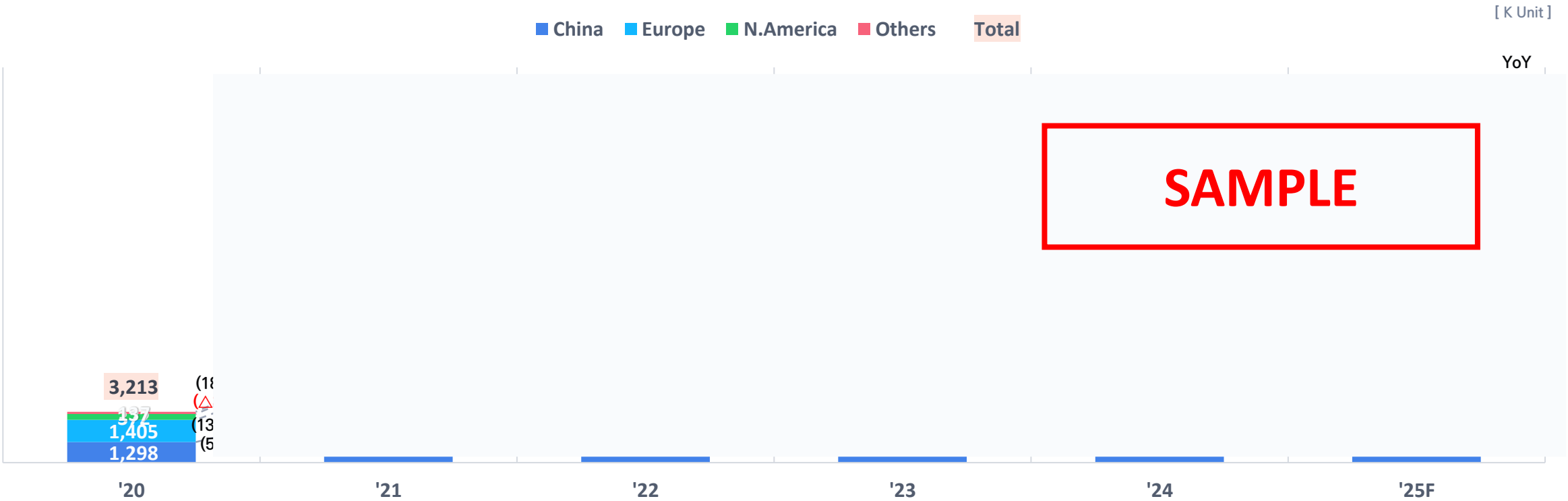


1.1 Global xEV Market Trend and Outlook

xEV Market Trend by Region

- China and Europe each experienced rapid growth—exceeding 150% in 2021 and 130% in 2020, respectively—followed by a sharp slowdown in growth.
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Global EV(BEV+PHEV) Annual Sales by Region

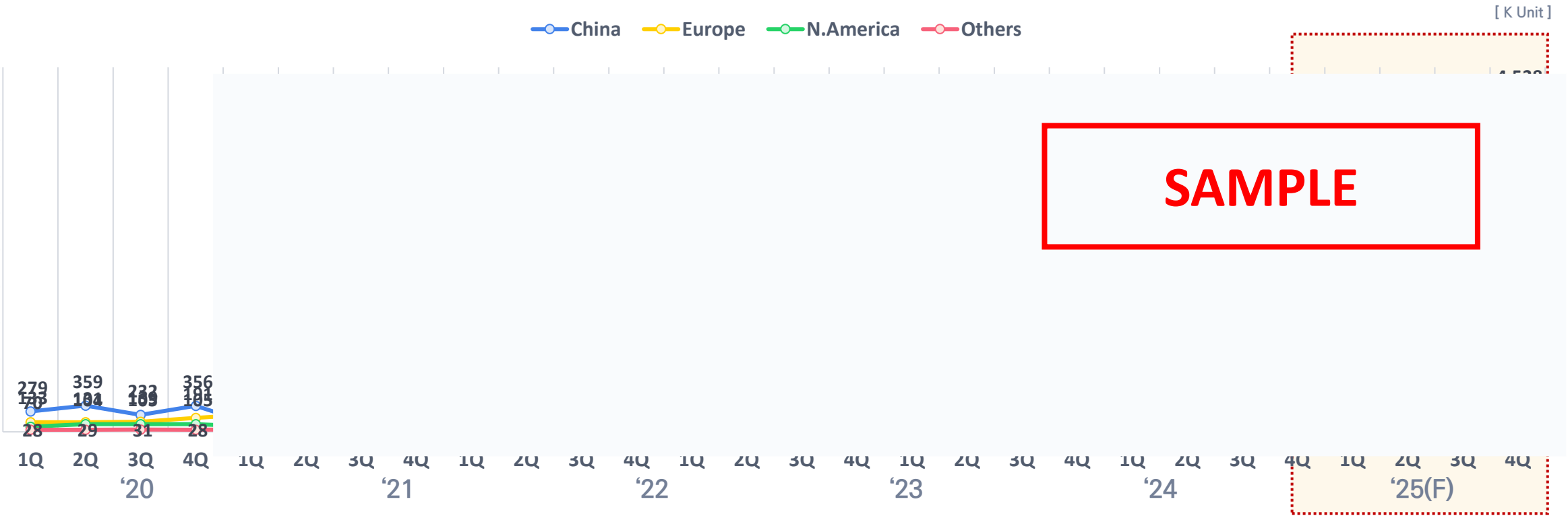


1.1 Global xEV Market Trend and Outlook

xEV Market Trend by Region

- The proportion of EV sales accounted for by China is steadily rising. Europe remains the second-largest EV market after China, but growth has stagnated significantly compared to 2023.
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Global EV(BEV+PHEV) Quarterly Sales by Region

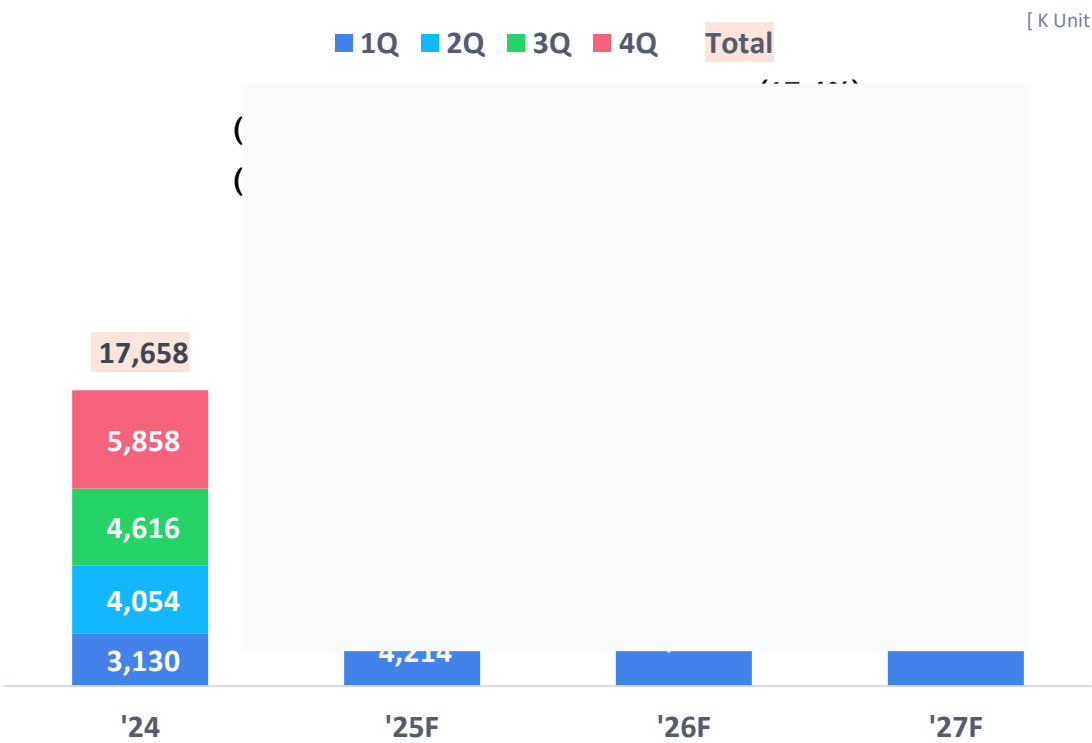


1.1 Global xEV Market Trend and Outlook

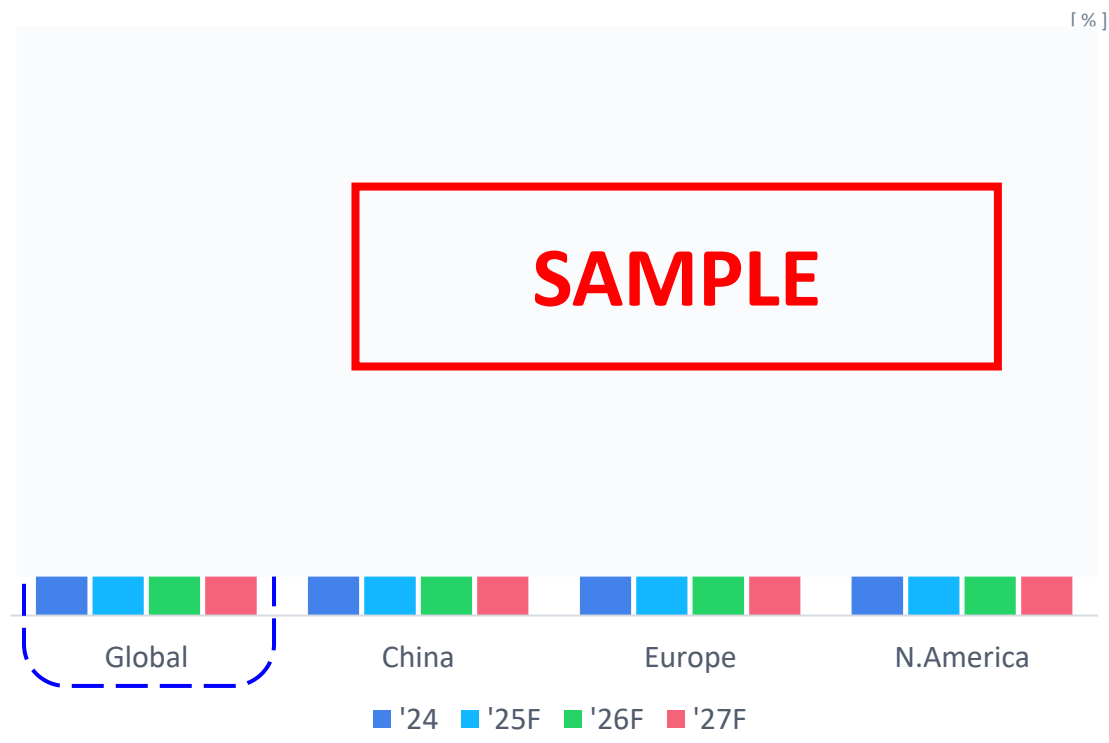
Global xEV Market Future Outlook (~'26)



Global EV(BEV+PHEV) Sales Outlook



Global EV(BEV+PHEV) Penetration Forecast

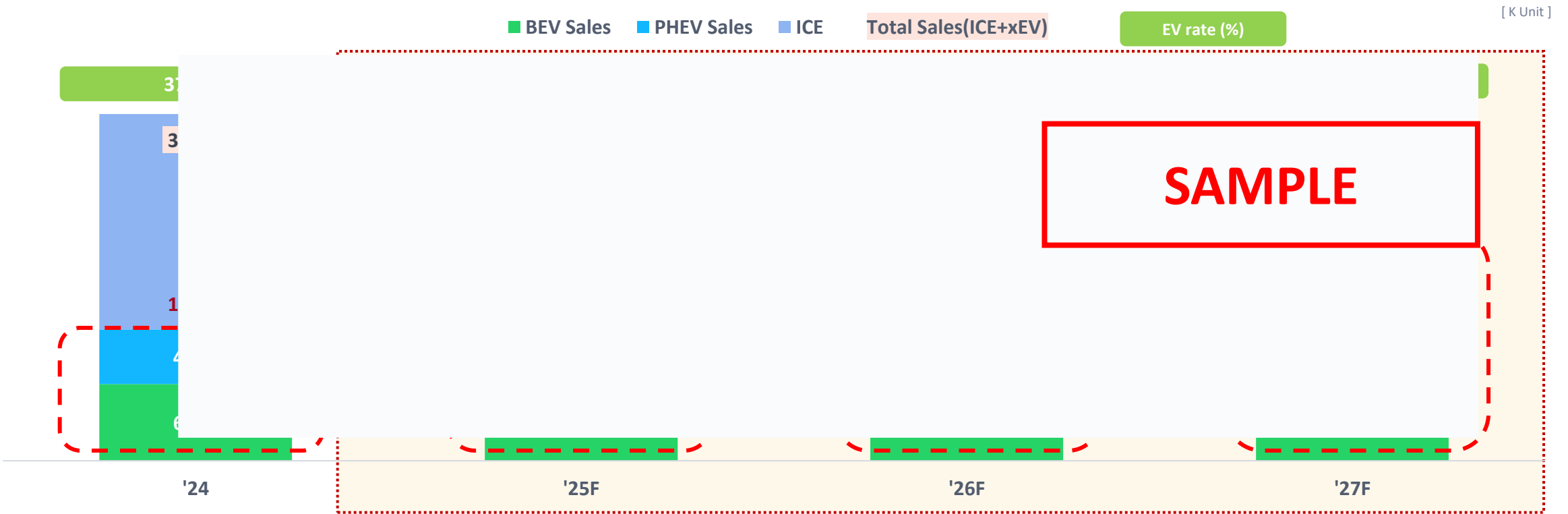


1.2 xEV Market Trend and Outlook by Region

Regional Trend and Outlook – China

- China, with the highest electrification rate, has entered a phase of stable growth as NEVs become widely adopted (Growth has slowed due to export declines amid prolonged U.S.–China
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EV Sales Outlook in China

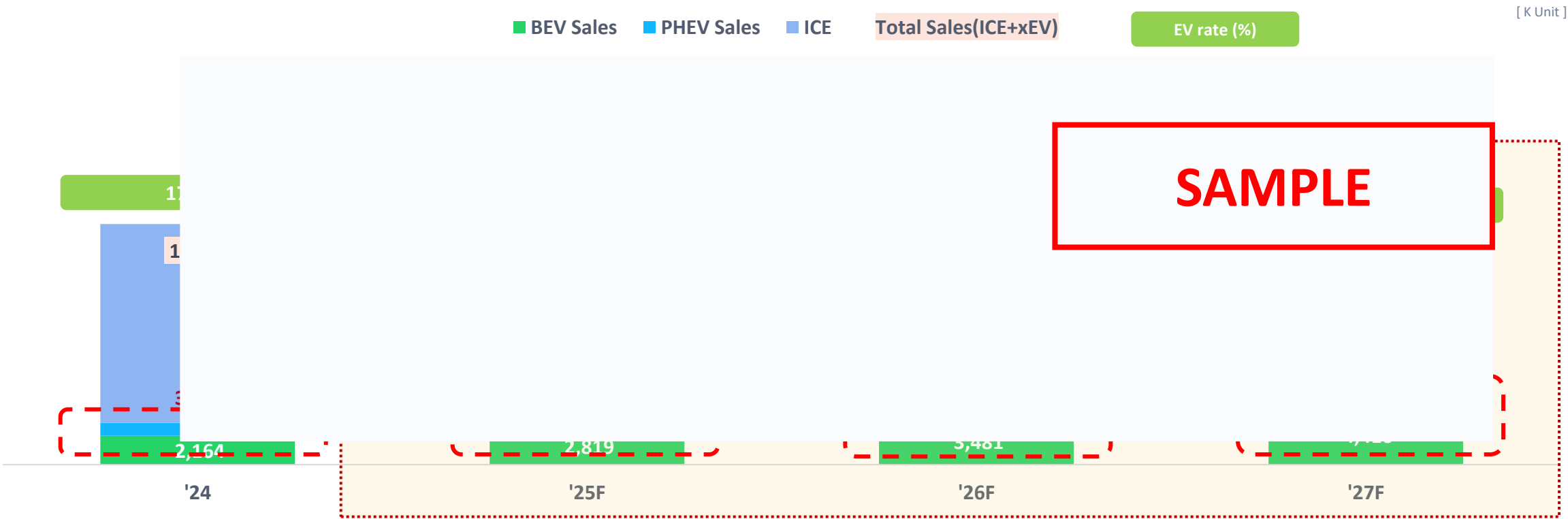


1.2 xEV Market Trend and Outlook by Region

Regional Trend and Outlook – Europe

- In 2024, 3.15 million units of xEV were sold in Europe, showing a 0.3% YoY dearowth.
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EV Sales Outlook in Europe



1.3 xEV Sales Trend and Outlook by Major OEMs

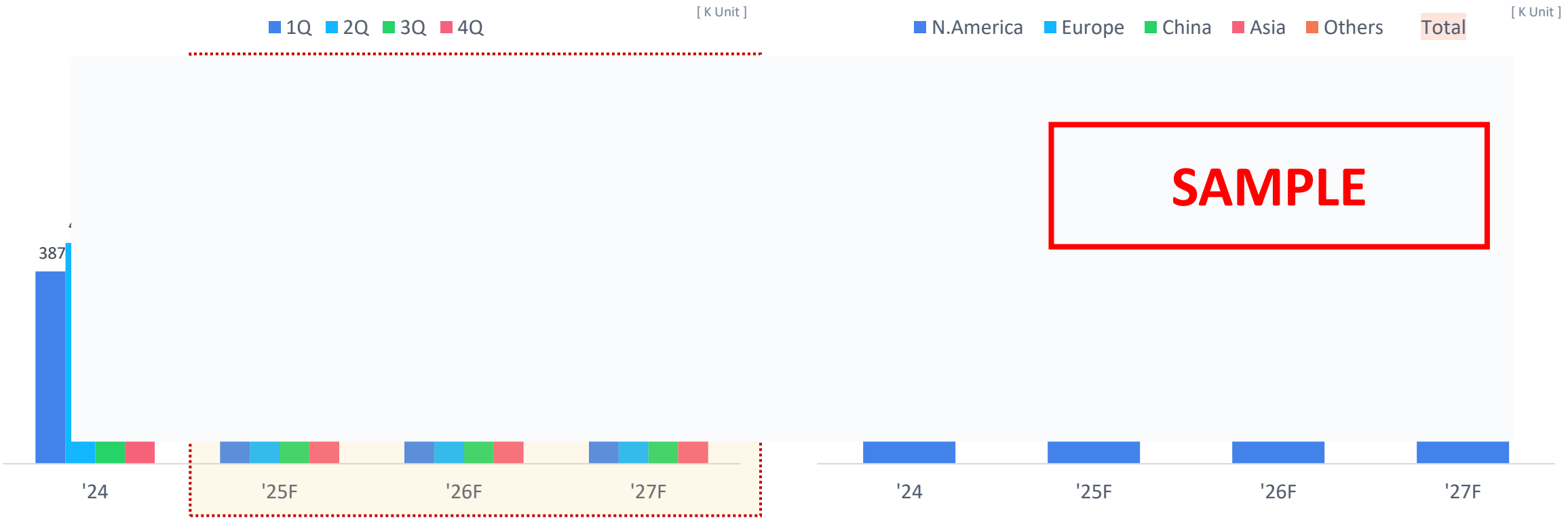
TESLA

- Sales in Q1 2025 are approximately 340k units, representing a 12% decline compared to the same period last year. Total sales in 2025 are expected to reach 1.7 million units, representing
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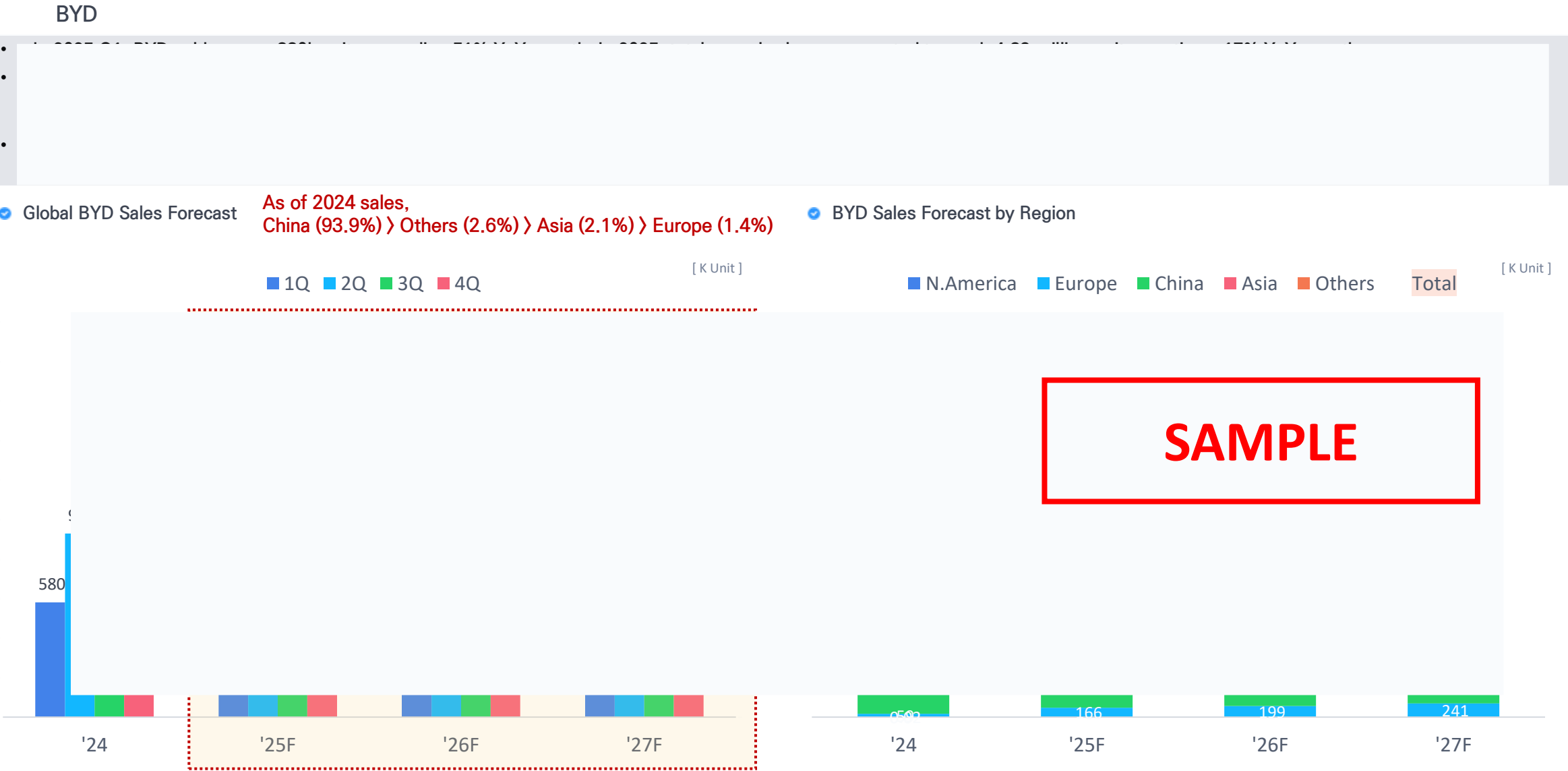
Global TESLA Sales Forecast

As of 2024 sales,
N.America (37.4%) > China (36.7%) > Europe (18.9%)

TESLA Sales Forecast by Region



1.3 xEV Sales Trend and Outlook by Major OEMs



2. xEV Battery Usage Trend and Outlook (~'27)

2.1 Global xEV Battery Usage Trend and Outlook

2.2 xEV Battery Usage Trend and Outlook by Region

- China
- Europe
- North America
- Asia and Others

2.3 Battery Usage Trend and Outlook by Major Cell Makers

- LG Energy Solution
- Samsung SDI
- SK on
- CATL
- BYD
- Panasonic

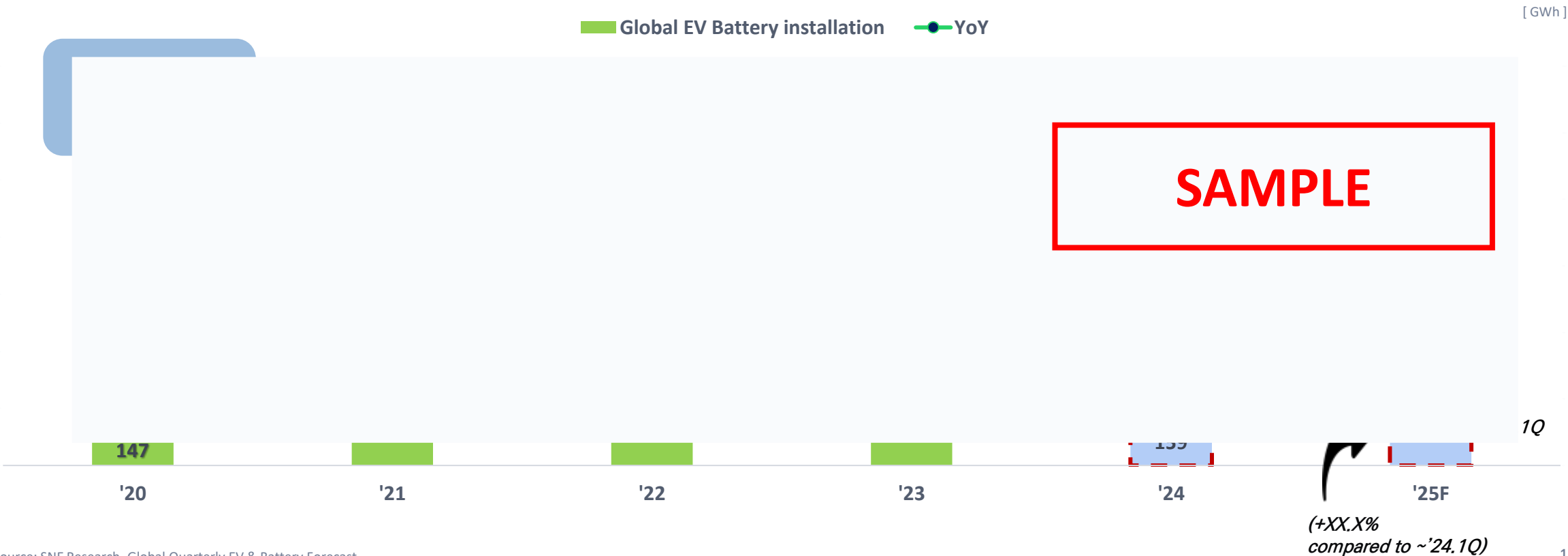
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2.1 Global xEV Battery Usage Trend and Outlook

Global EV Battery Market Trend

- 'Global EV slowdown since '23 has dampened battery demand; 2024 battery usage to reach 898 GWh (+26.6% YoY), 2025F: 1,153 GWh
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Global EV(BEV+PHEV+HEV) Battery Usage



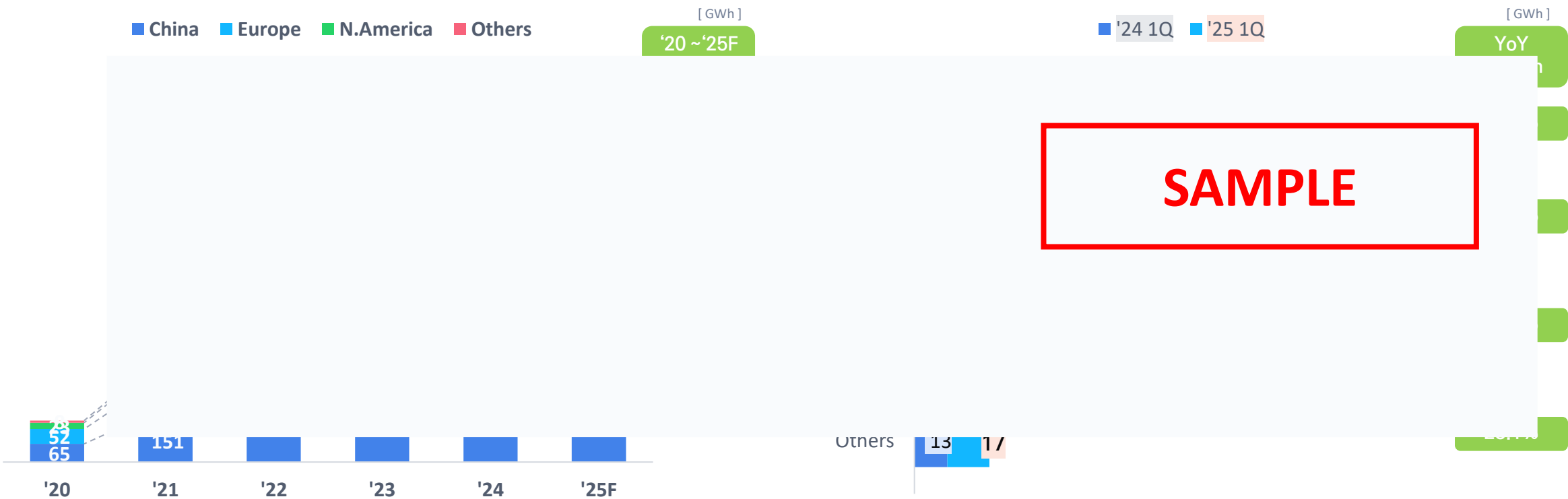
2.1 Global xEV Battery Usage Trend and Outlook

Regional EV Battery Market Trend

- EV battery usage ('20-'25) expected to grow at a high CAGR of 30-60% across all regions
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Regional EV(BEV+PHEV+HEV) Battery Usage

Q1 2025 EV Battery Usage Growth by Region (YoY)

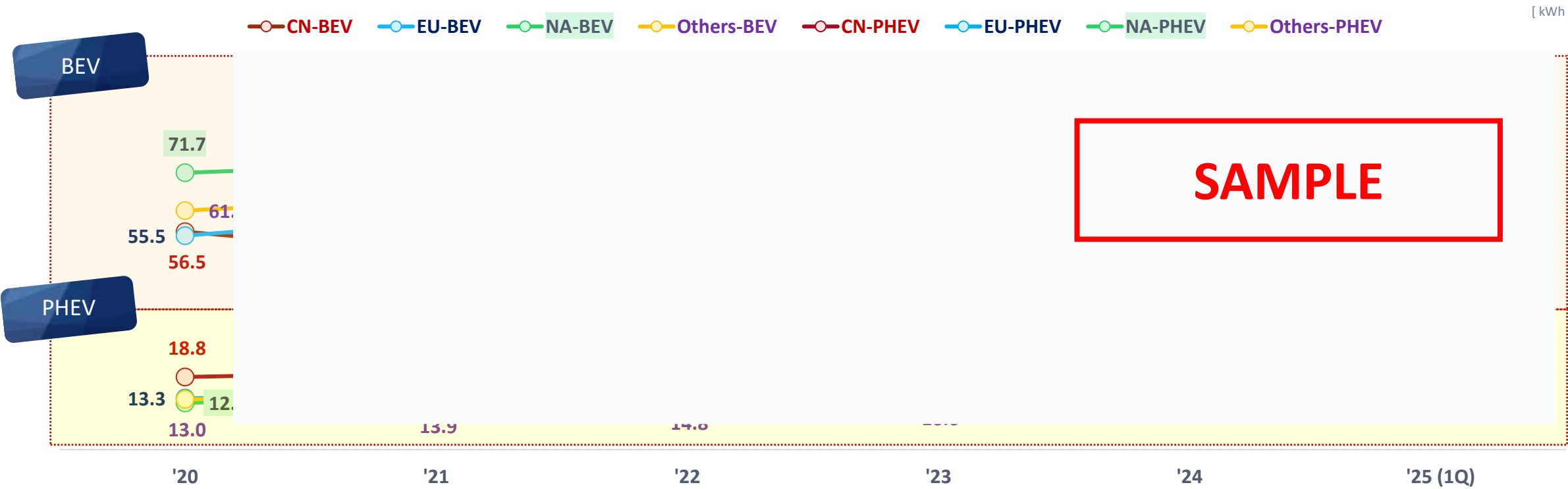


2.1 Global xEV Battery Usage Trend and Outlook

Regional Average EV Battery Capacity (BEV, PHEV)

- Since 2021, average EV Battery capacity has been increasing across all major markets, moving beyond China’s small EV dominance.
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Regional Average Battery Capacity per EV(BEV, PHEV)

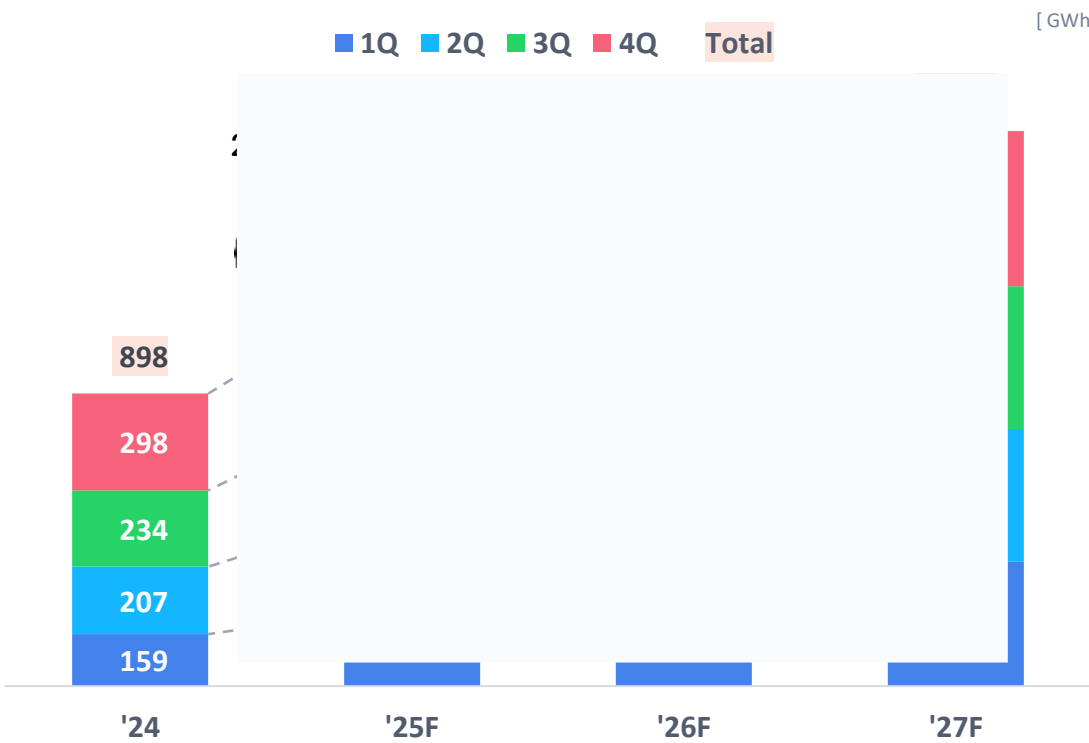


2.2 xEV Battery Usage Trend and Outlook by Region

Global EV Battery Market Outlook (through 2027)

- The global battery market grew 28.4% YoY in 2024, but the growth rate is expected to slow: 2025F +XX.X%, 2026F +XX.X%, 2027F +XX.X%.
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Global EV(BEV+PHEV+HEV) Battery Usage Outlook



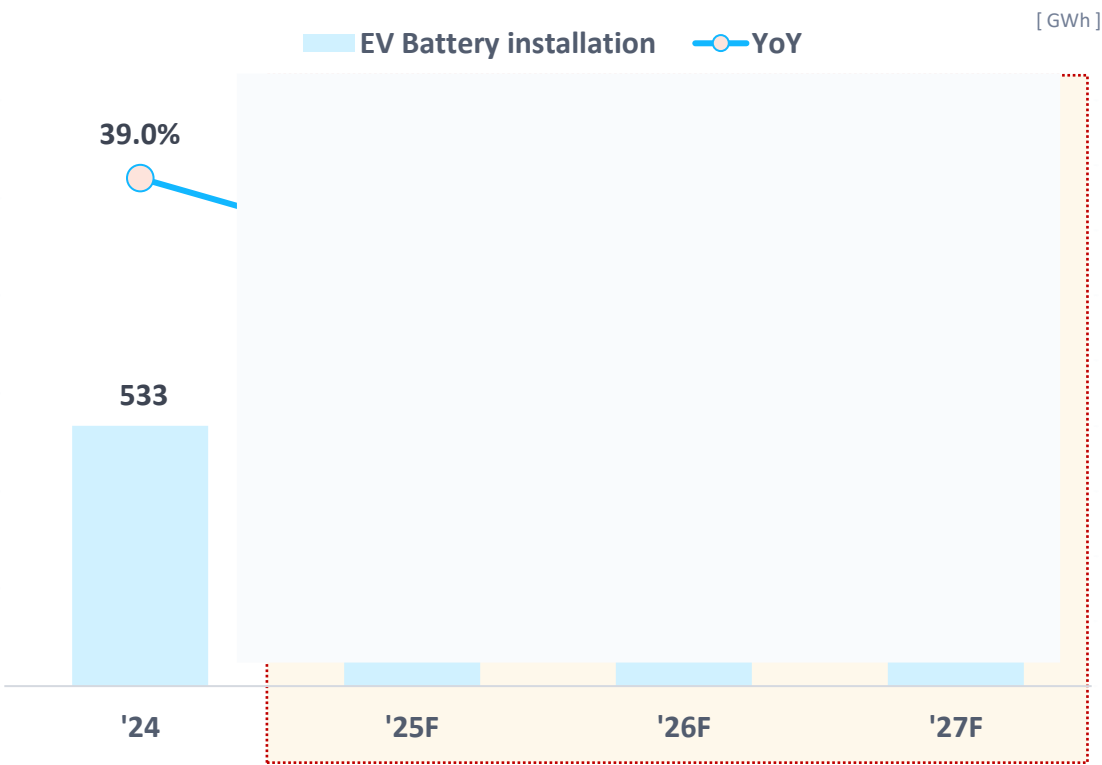
Regional EV(BEV+PHEV+HEV) Battery Usage Outlook (%)



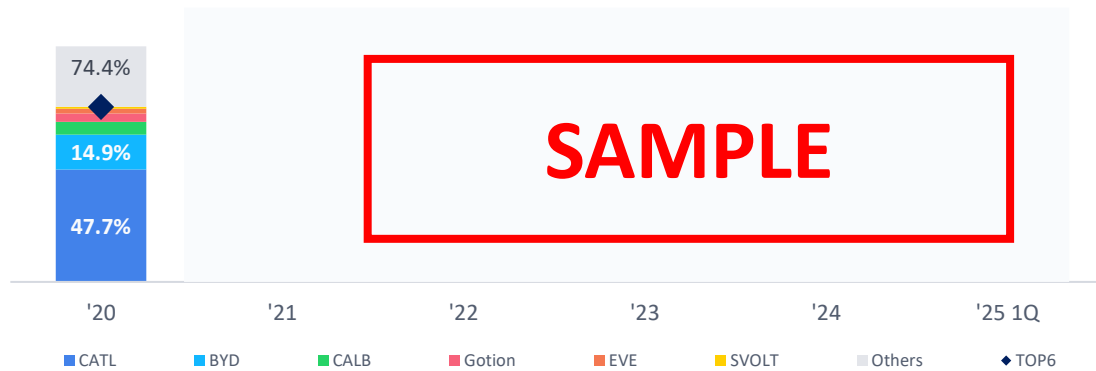
2.2 xEV Battery Usage Trend and Outlook by Region

- Trend and Outlook by Region – China
- Despite expectations of slowing growth due to market saturation and economic downturn, strong sales by BYD, Geely, and emerging players (Xpeng, NIO, Li Auto) along with low HEV
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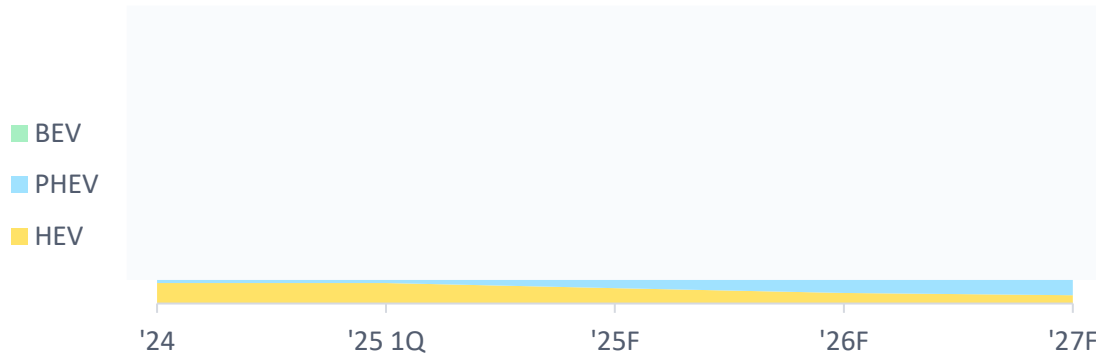
EV Battery Usage Outlook



EV Battery Maker Top 6 M/S Trend



EV Type Share Trends and Outlook (by Units)

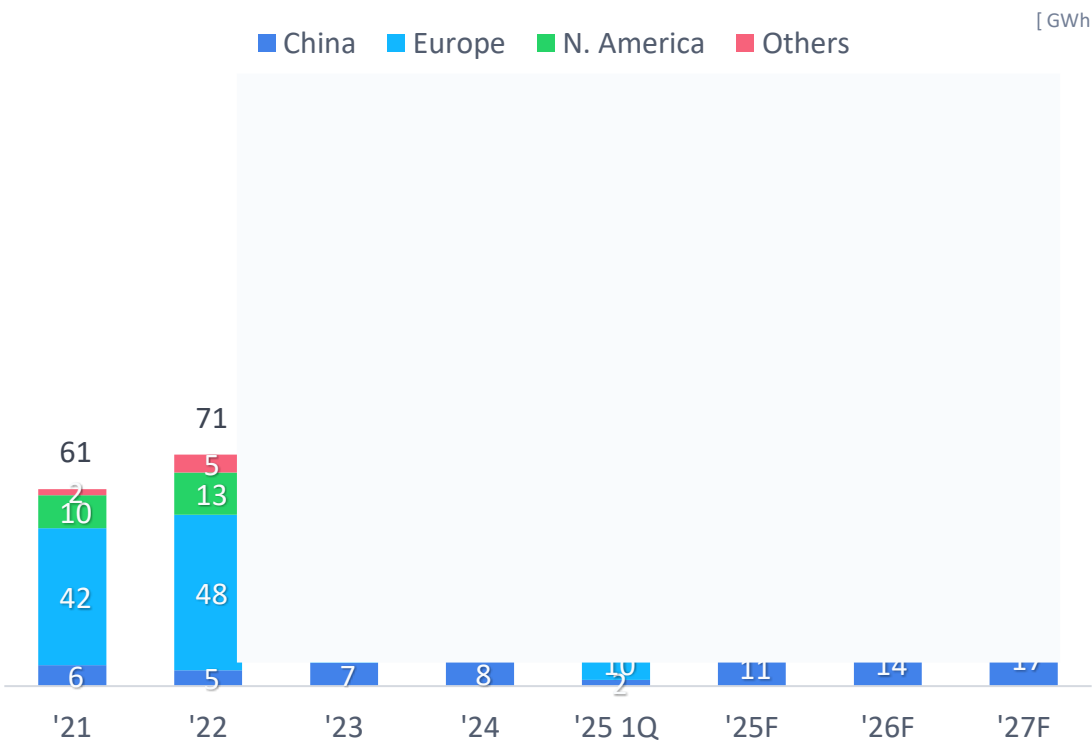


2.3 Battery Usage Trend and Outlook by Major Cell Makers

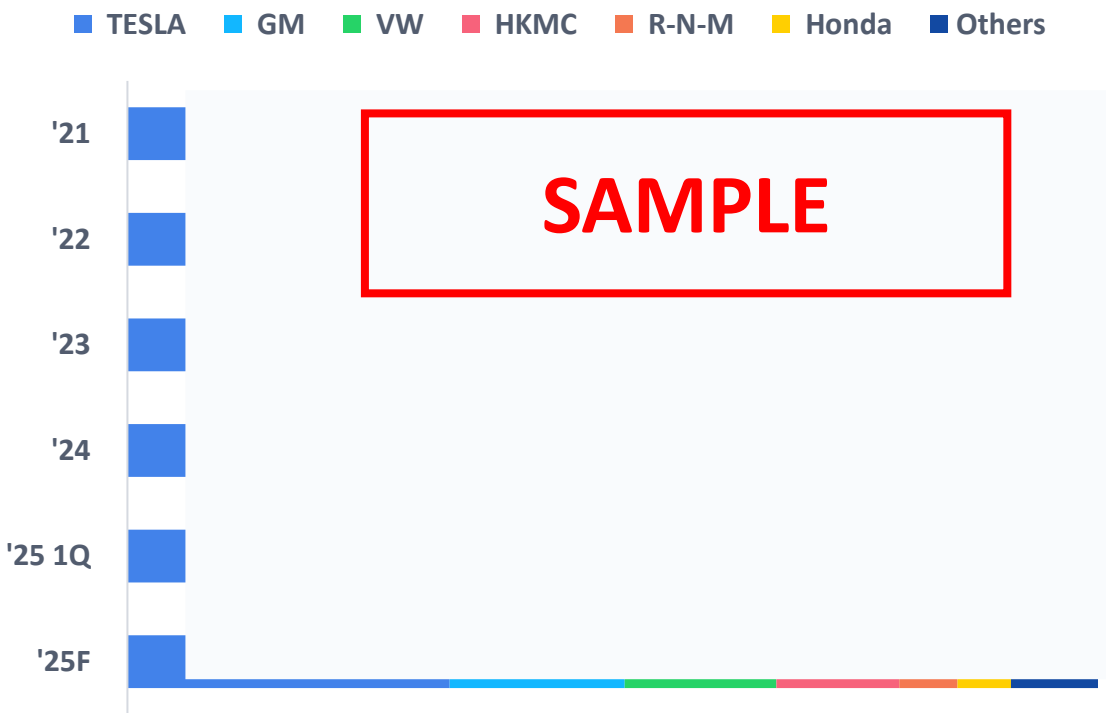
Trends and Outlook by Company – LG Energy Solution

- In the North American market, which holds strong EV growth potential. LGES is expected to expand its M/S from 2025 onward with the mass production of 4680 cylindrical batteries. The company
- L
- S

Regional EV Battery Usage Outlook



Supply Chain by OEM Group (Based on Installation Volume)

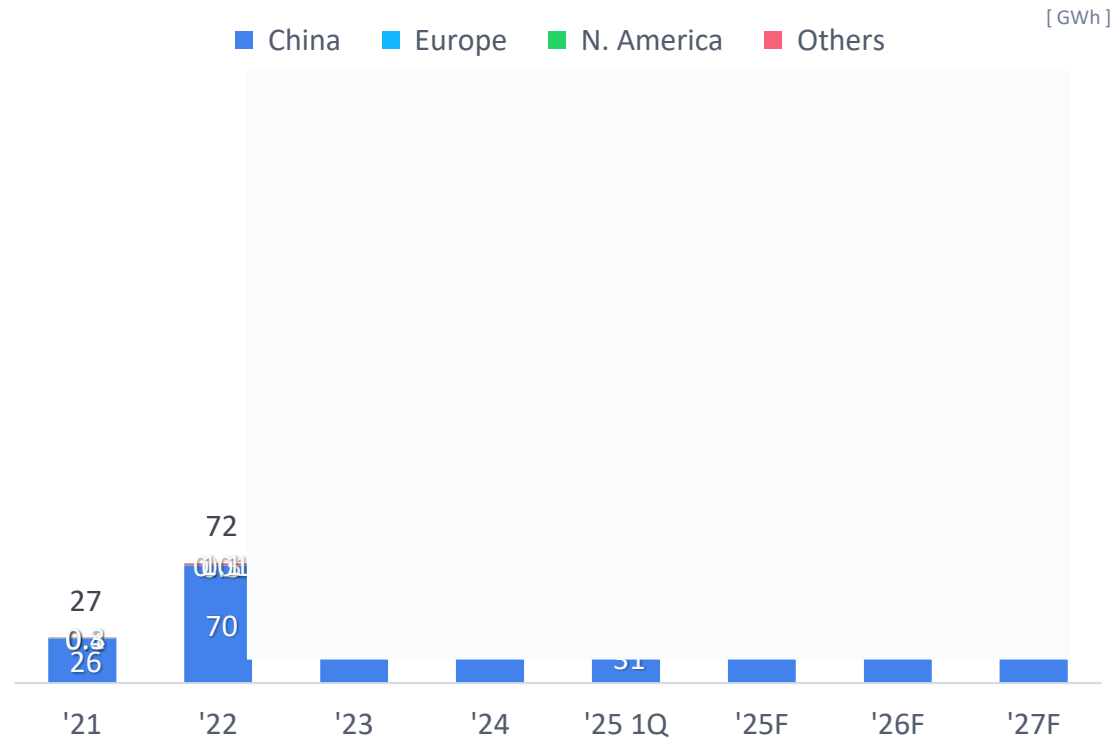


2.3 Battery Usage Trend and Outlook by Major Cell Makers

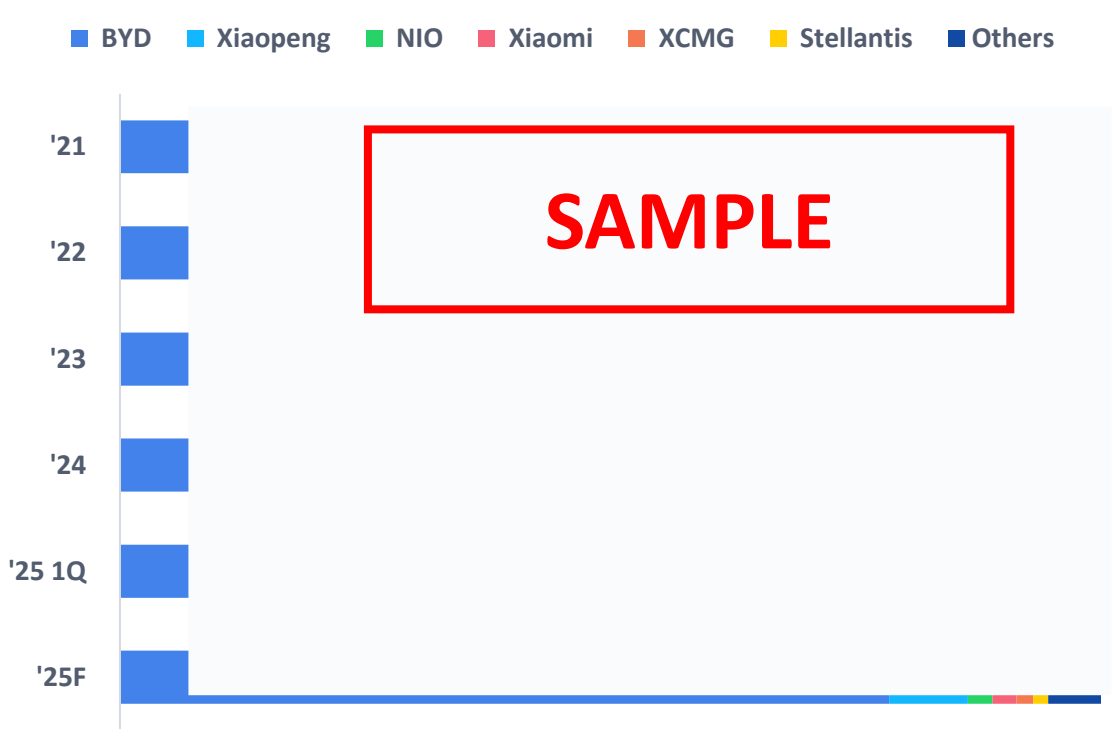
Trends and Outlook by Company – BYD

- The company has a very high share of supply to its own OEM and the Chinese domestic market. Since 2023, exports have been active to regions excluding North America, including Europe,
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Regional EV Battery Usage Outlook



Supply Chain by OEM Group (Based on Installation Volume)



3. Major Battery Materials Usage Trend

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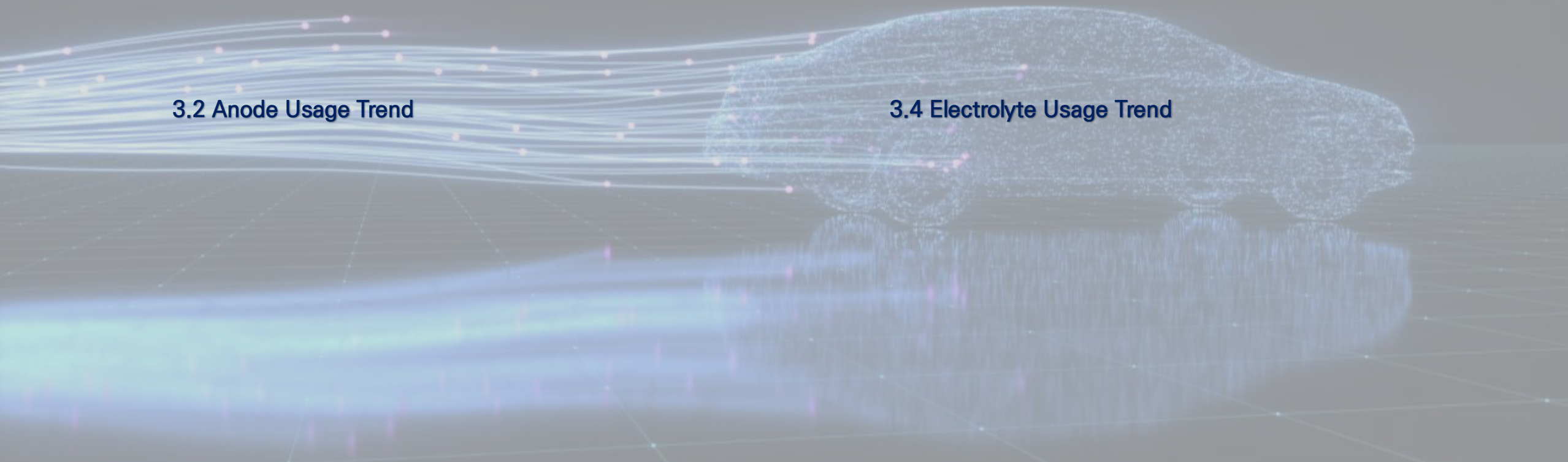
3.1 Cathode Material Usage Trend

- Global Cathode Installment Trend
- Global Cathode Market Analysis

3.3 Separator Usage Trend

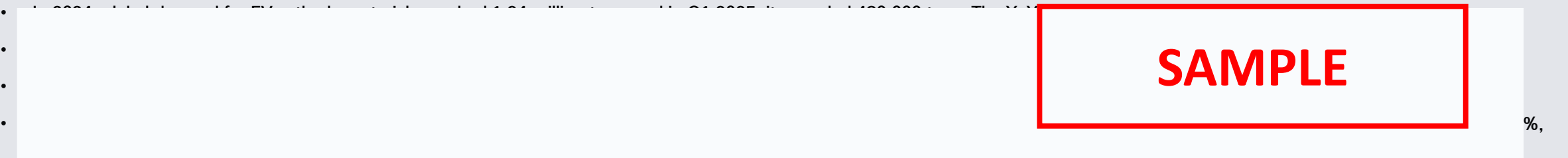
3.2 Anode Usage Trend

3.4 Electrolyte Usage Trend

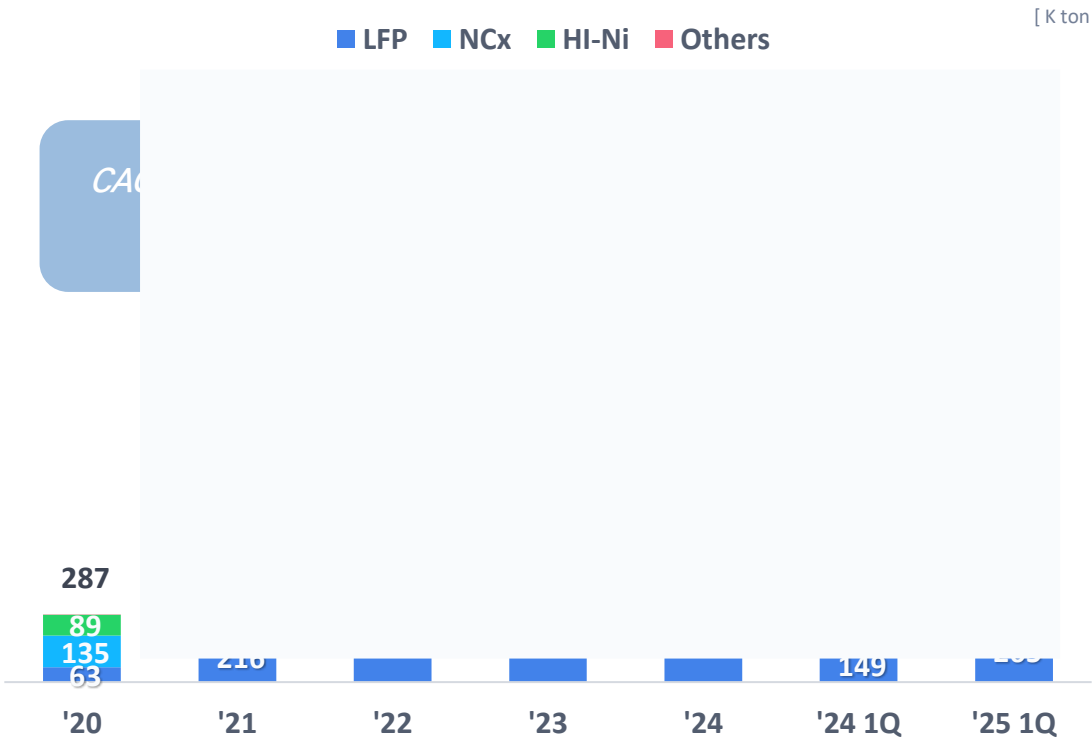


3.1 Cathode Material Usage Trend

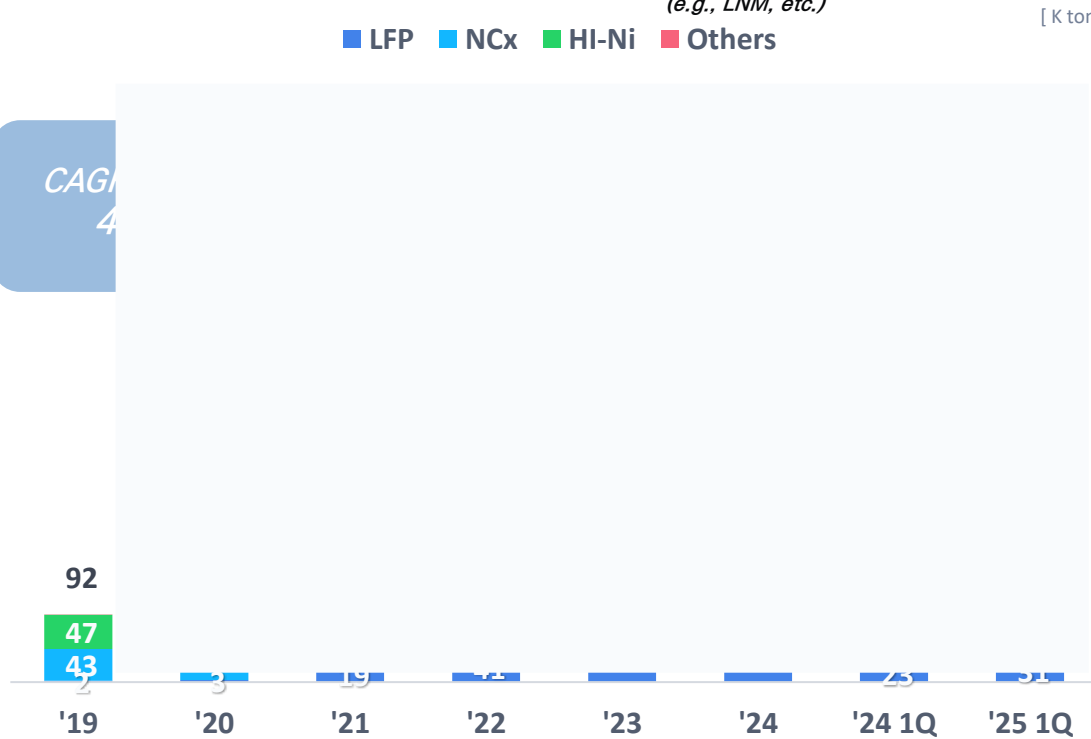
- Global Cathode Material Loading Trends



Global EV Cathode Material Loading Trends



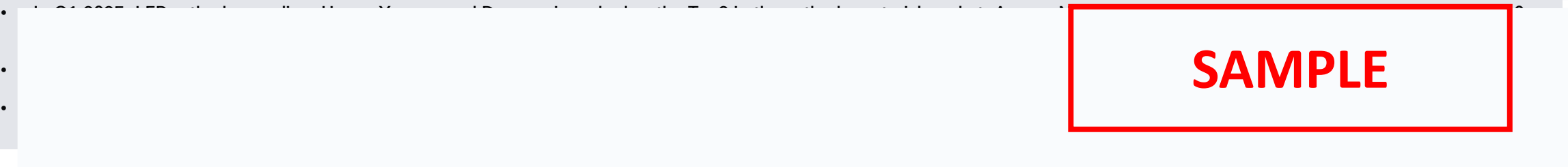
Global EV Cathode Material Loading Trends (Excluding China)



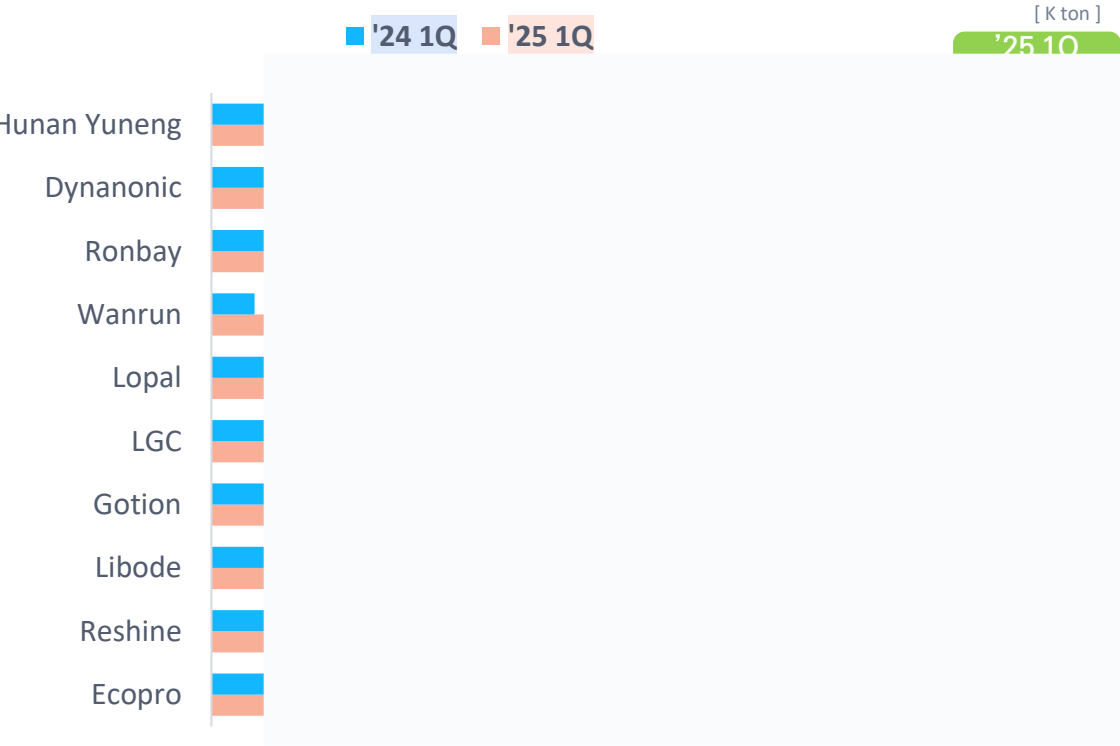
Content of 80% or higher
* Others: Cathode materials excluding ternary types (NCM, NCA, NCMA), LMO, LCO, and LFP (e.g., LNM, etc.)

3.1 Cathode Material Usage Trend

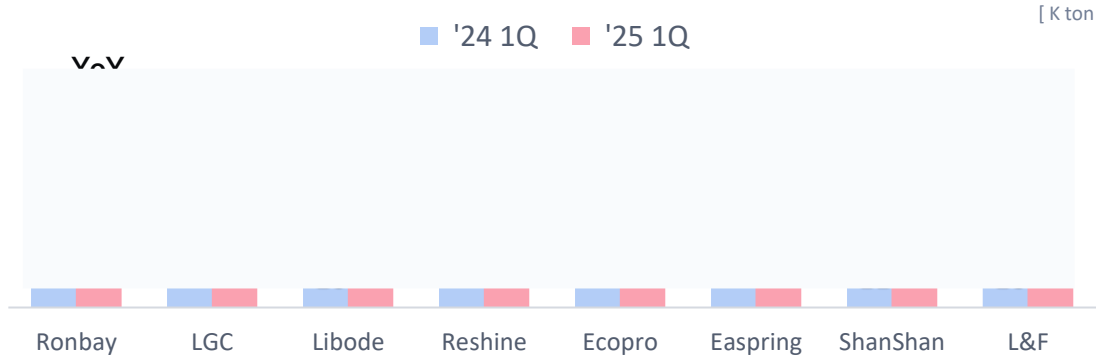
- Global Cathode Market Analysis



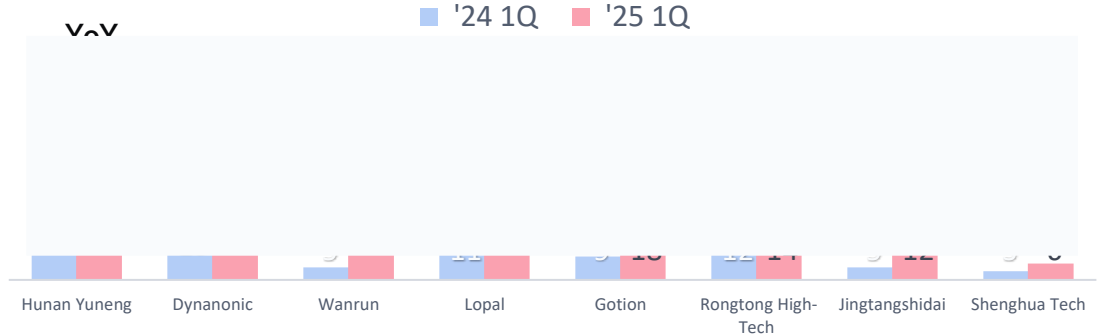
Top 10 Global EV Battery Makers by Cathode Material Loading in Q1 2025 (Total: 480K tons)



Global NCx Cathode Material Loading for EV Batteries in Q1 2025 (Total: 215K tons)



Global LFP Cathode Material Loading for EV Batteries in Q1 2025 (Total: 265K tons)



Global Anode Material Loading Trends

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🔍 Top 10 Global EV Battery Anode Material Suppliers in Q1 2025 by Loading Volume and M/S

