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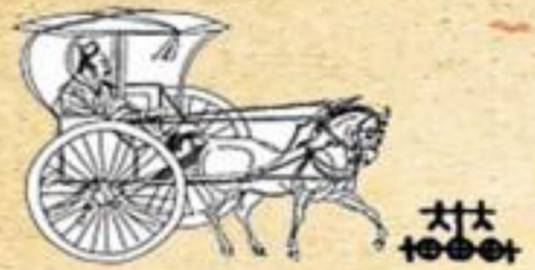

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China Car & NEV Market 2023 – Booming & Charging Ahead

- “A Look Back and Look Ahead” - for Amcham Shanghai Auto Committee

January 19, 2023

AMCHAM SHANGHAI 上海美国商会

Presentation by - Zhang Yu, Managing Director
Automotive Foresight (Shanghai) Co., Ltd.

Agenda

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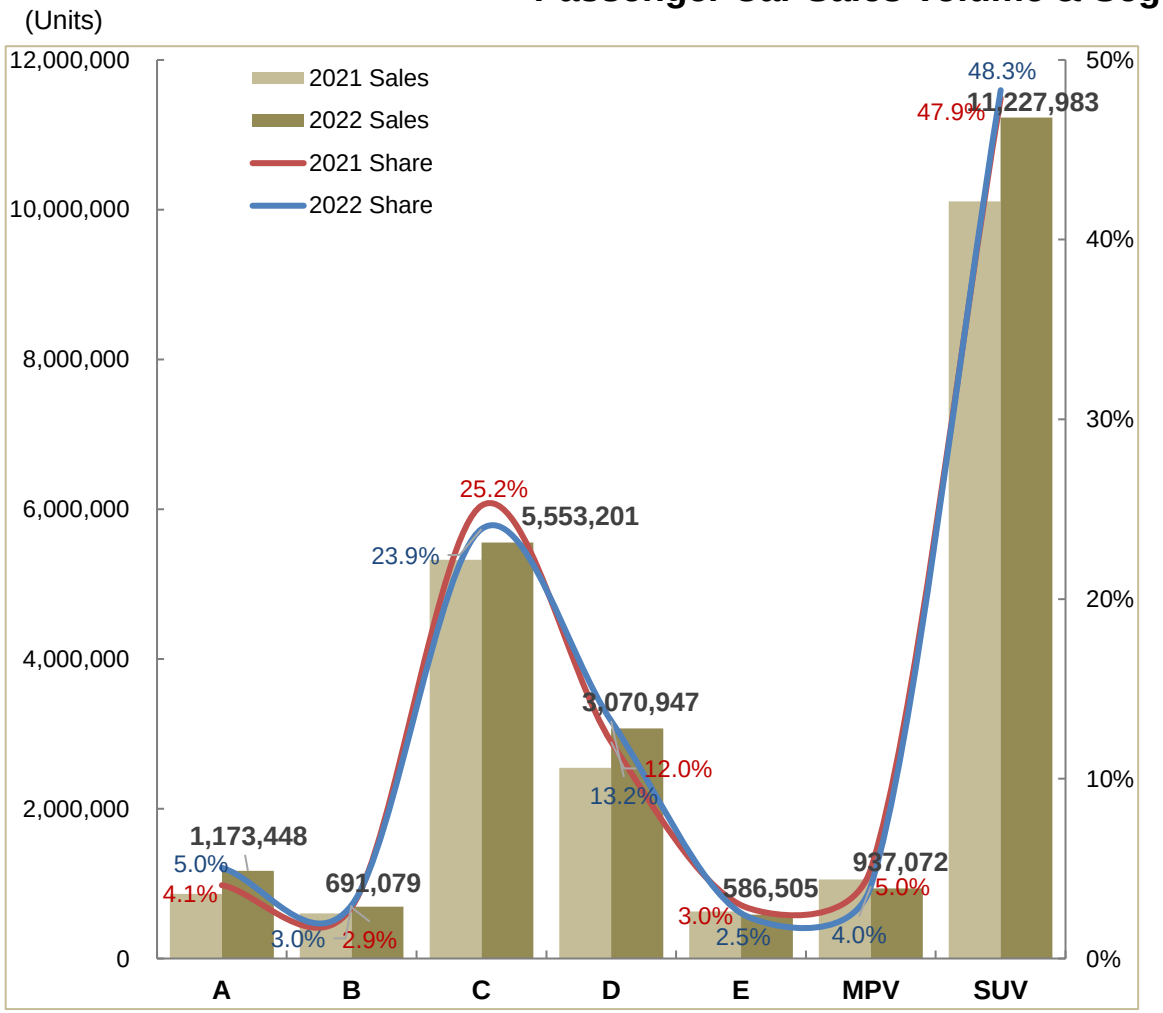
- ✓ **China Car Market Review**
- ✓ China NEV Market Overview
- ✓ Major Regulations & Policy Trends
- ✓ Market Outlook 2023

Passenger Car Market – By Segment Sales Volume

In 2022, domestic auto sales reached 26,863,745 units, y-o-y growth of 2.2%. Passenger Car (Car/MPV/SUV) sales hit 23,240,235 units, y-o-y growth of 10.2%.

Passenger Car Sales Volume & Segment Share (YTD) Changes 2021 & 2022



Segment	Sales Volume Growth (YTD)	Sales Growth (%)	Share Changes (Percentage Points)
A	311,267	36.1%	1.0
B	87,687	14.5%	0.1
C	230,651	4.3%	-1.3
D	525,401	20.6%	1.2
E	-40,654	-6.5%	-0.4
MPV	-118,162	-11.2%	-1.0
SUV	1,117,023	11.0%	0.5
Total (PV)	2,113,213	10.0%	-

Sources: CAAM; AutoForesight Research & Analysis

ICE Car Sales Growth – By Segment

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In 2022, most ICE segments decreased y-o-y, only ICE D-sedan grew due to purchase tax cut stimulus

ICE Car Sales Growth By Segment

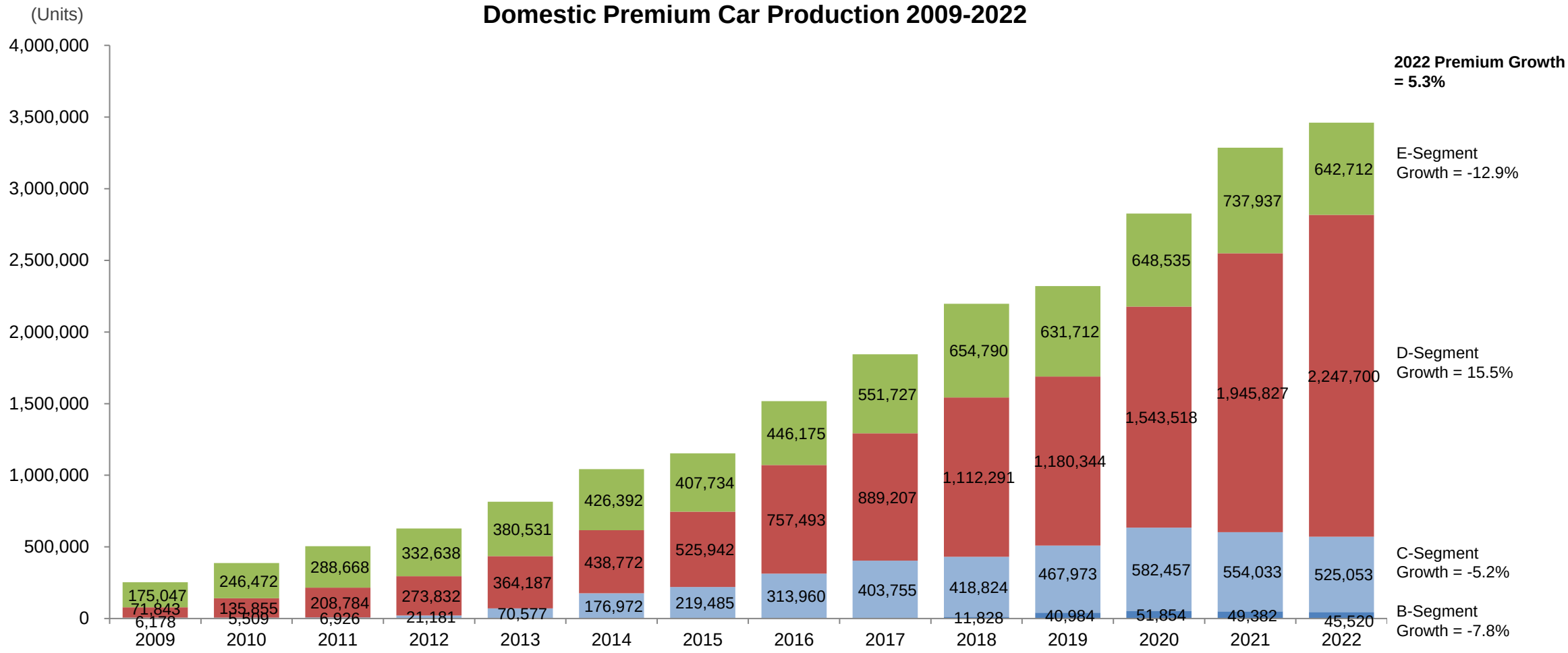
Segment	ICE Car Sales Growth YTD 2022											
	Jan	Feb-YTD	Mar-YTD	Apr-YTD	May-YTD	Jun-YTD	Jul-YTD	Aug-YTD	Sep-YTD	Oct-YTD	Nov-YTD	Dec-YTD
A	3.5%	-1.6%	-31.3%	-29.7%	-21.3%	-29.7%	-31.5%	-31.4%	-16.2%	15.9%	24.3%	-1.7%
B	-21.2%	-19.0%	-21.3%	-30.4%	-33.3%	-29.0%	-27.2%	-27.2%	-24.3%	-21.9%	-21.1%	-24.4%
C	-11.6%	-2.8%	-7.6%	-17.2%	-17.3%	-10.8%	-6.1%	-3.7%	-2.5%	-2.7%	-6.0%	-7.8%
D	-0.2%	6.5%	1.0%	-13.6%	-10.6%	1.0%	6.7%	10.1%	14.6%	12.5%	10.0%	7.2%
E	-12.2%	-7.9%	-18.6%	-29.7%	-27.4%	-18.3%	-15.9%	-12.5%	-9.6%	-11.0%	-13.3%	-13.6%
MPV	-1.3%	4.5%	-7.1%	-20.9%	-21.1%	-16.1%	-13.9%	-11.8%	-9.5%	-12.0%	-14.3%	-15.1%
SUV	-4.2%	1.3%	-4.9%	-17.5%	-17.4%	-12.0%	-7.1%	-3.4%	-1.1%	-1.1%	-3.4%	-5.3%
Total	**-6.4%**	**0.0%**	**-6.0%**	**-17.9%**	**-17.6%**	**-11.1%**	**-6.5%**	**-3.5%**	**-1.2%**	**-1.6%**	**-4.0%**	**-5.9%**

Sources: CAAM; AutoForesight Research & Analysis

Domestic Premium Car - By Segment

AutoForesight®

In 2022, domestic premium car production hit 3,460,985 units, increasing by 5.3%, or 173,806 units.

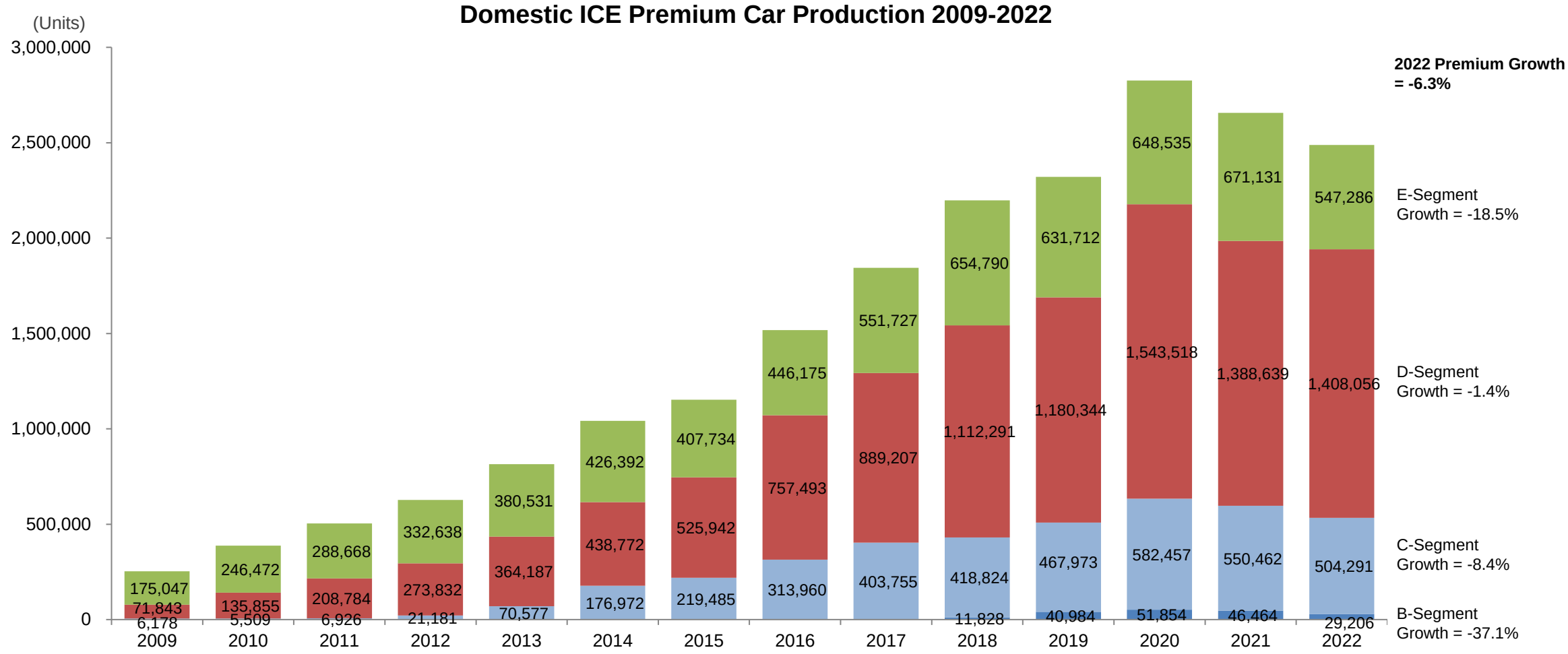


Source: CAAM Data; AutoForesight Analysis * Including Sedan, MPV and SUVs

Domestic ICE Premium Car - By Segment

AutoForesight®

In 2022, domestic ICE premium car production hit 2,488,839 units, decreasing by -6.3%, or -167,857 units.

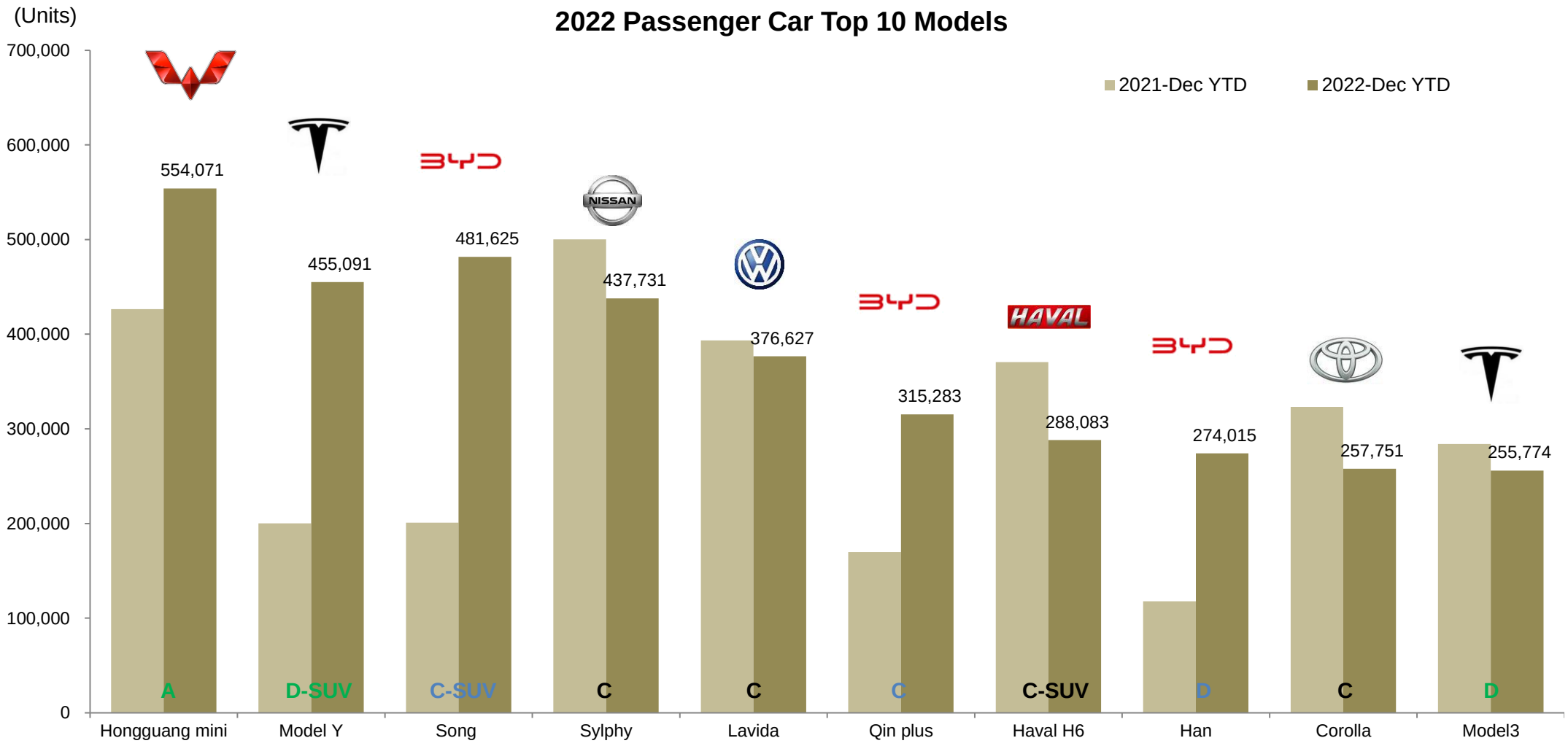


Source: CAAM Data; AutoForesight Analysis * Including Sedan, MPV and SUVs

Top-10 Best-selling Models - 2022

AutoForesight®

Among 2022 Top-10 models, there were 6 NEVs and 4 ICE cars

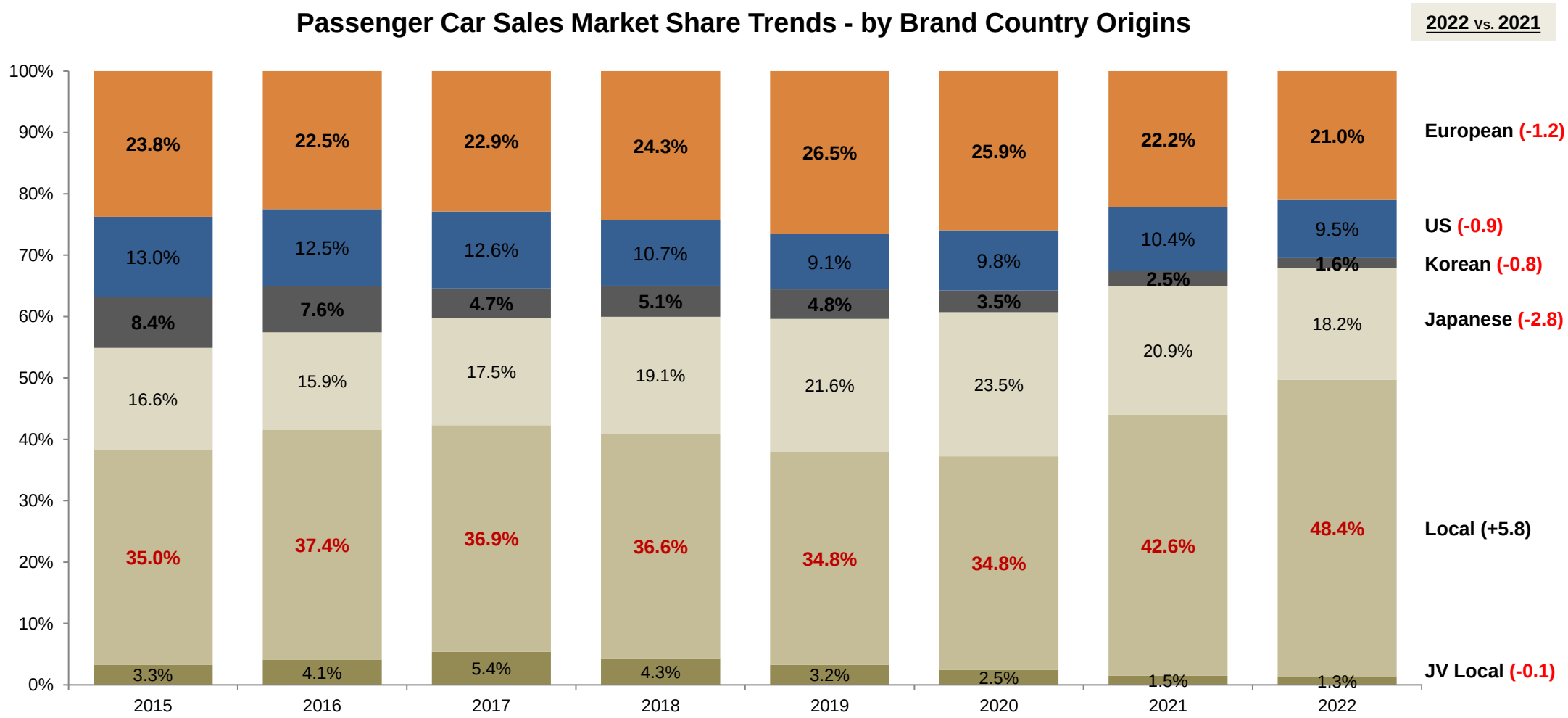


Sources: CAAM; AutoForesight Research & Analysis

Sales Market Share Trends - By Brand Country Origins

AutoForesight®

The share of local brands accounted for 48.4% in 2022, up 5.8 points year-on-year

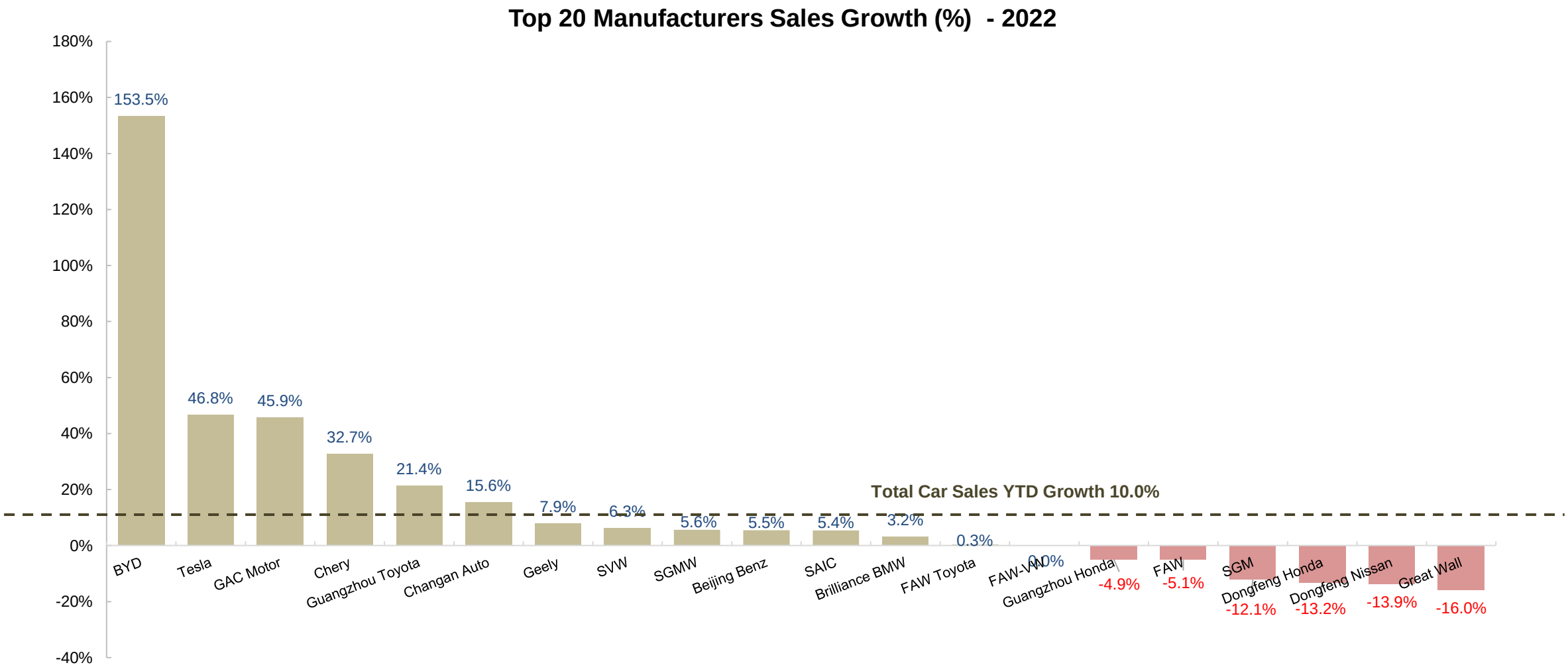


Sources: CAAM; AutoForesight Research & Analysis; including only Car, MPV and SUV

Top-20 Car Makers Sales Growth – Dec-2022 YTD

AutoForesight®

By end of 2022, compared with the industry average growth of 10.0%, 6 top-20 manufacturers were growing faster

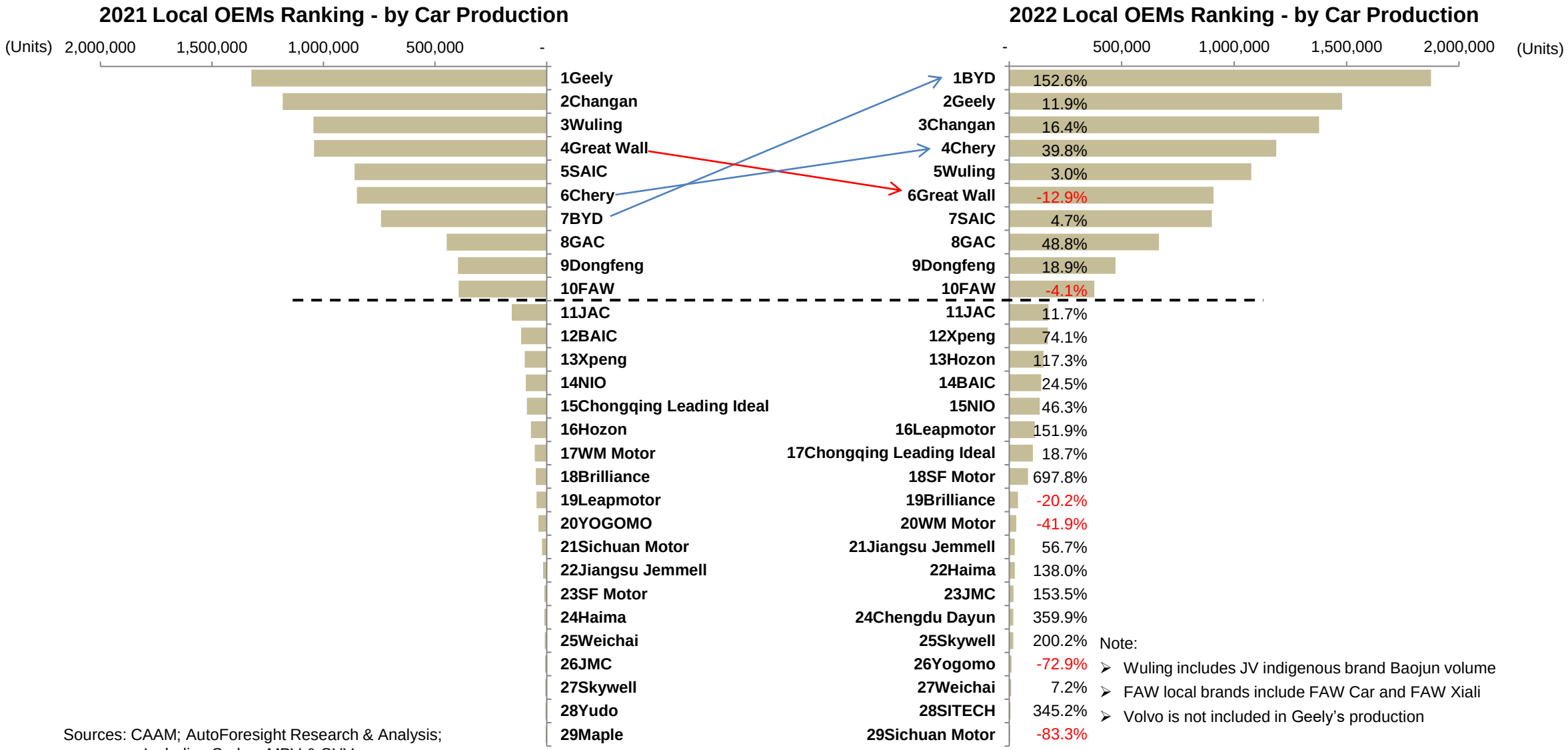


Sources: CAAM; AutoForesight Research & Analysis

Local OEMs Ranking – By Production

AutoForesight®

In 2022, BYD rose to No.1, the fastest in the ranking



Note:

- Wuling includes JV indigenous brand Baojun volume
- FAW local brands include FAW Car and FAW Xiali
- Volvo is not included in Geely's production

Sources: CAAM; AutoForesight Research & Analysis;
Including Sedan, MPV & SUVs

Agenda

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- ✓ China Car Market Review
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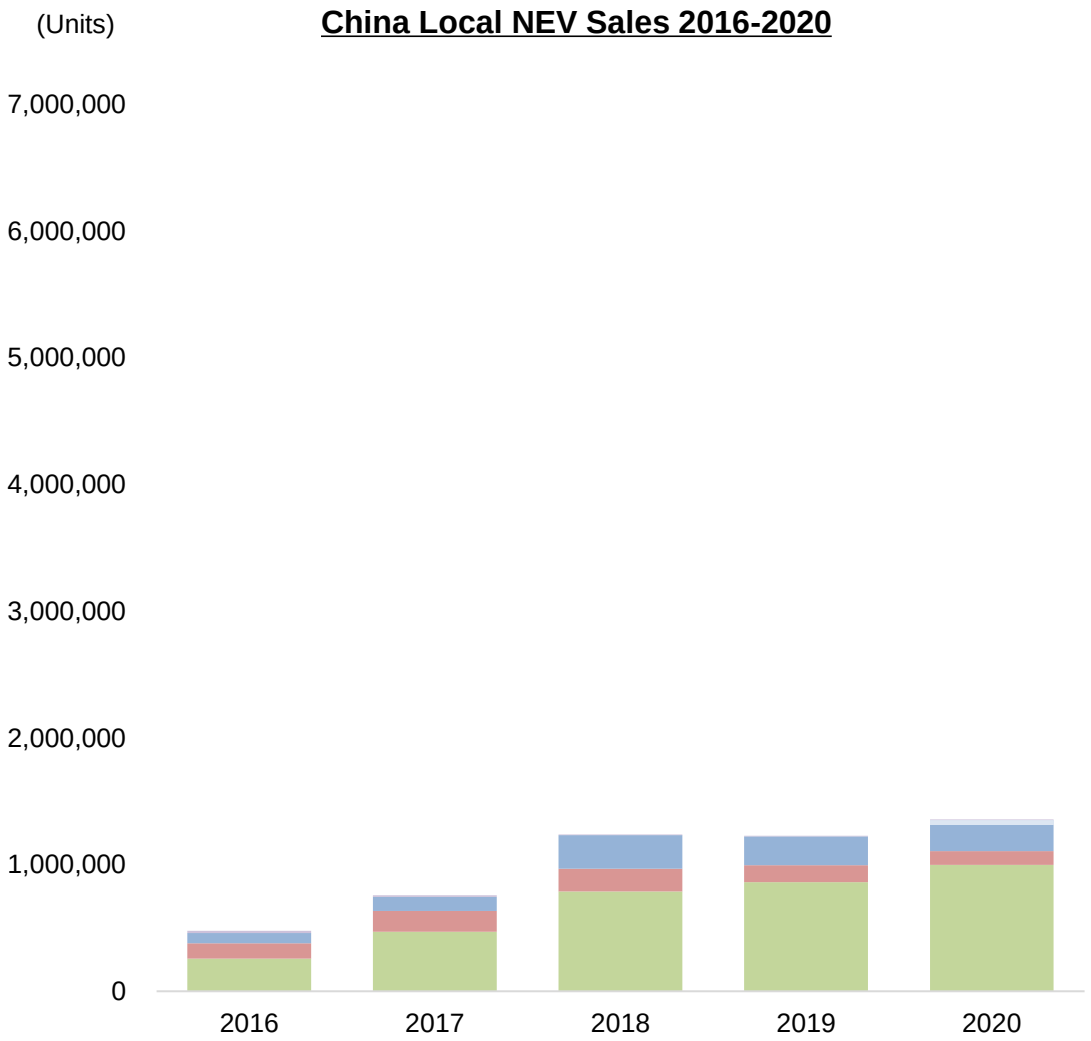
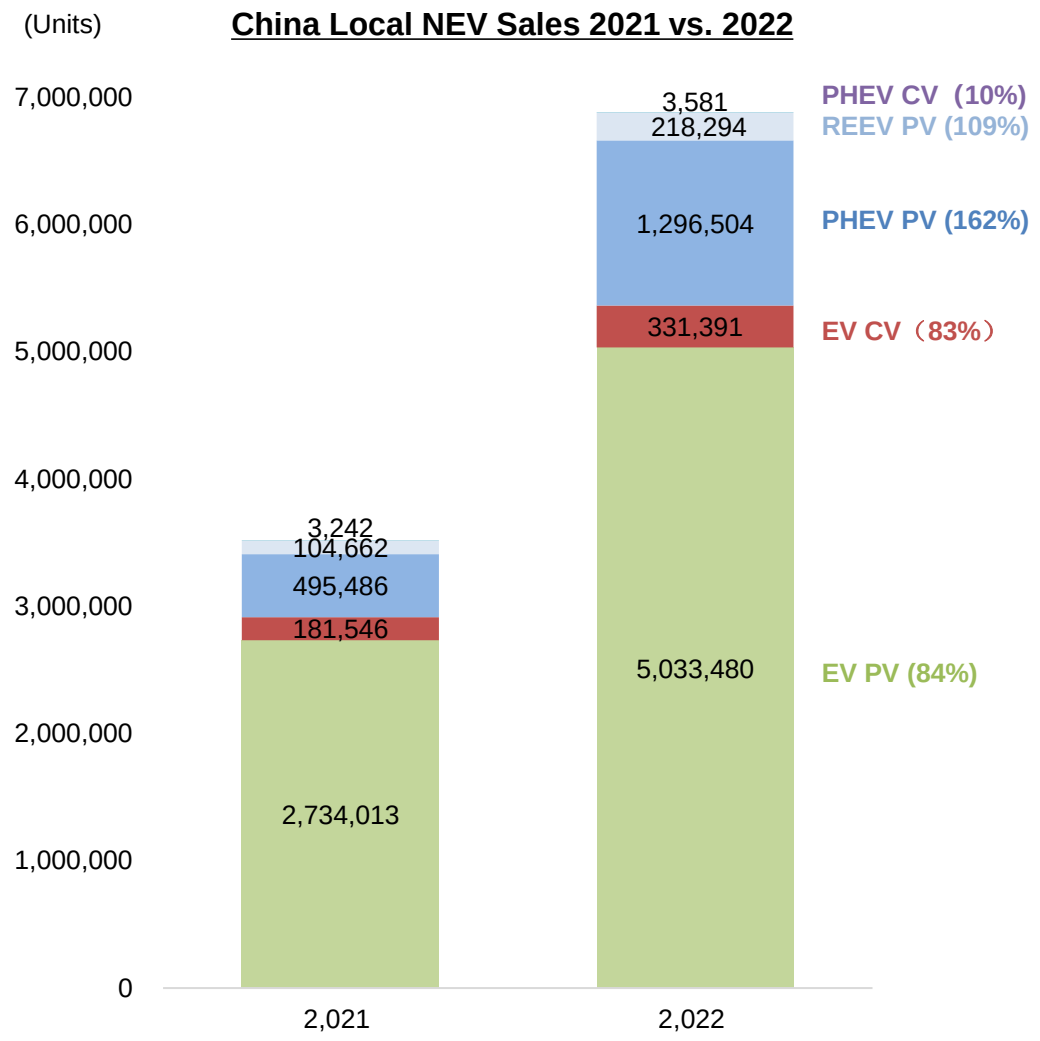
China NEV Sales – By Segment

In 2022, China NEV sales reached 6,883,250 units, increasing by 96% year-on-year, up 3.36 million units.





Source: CAAM; AutoForesight Research & Analysis

NEV Production Proportion

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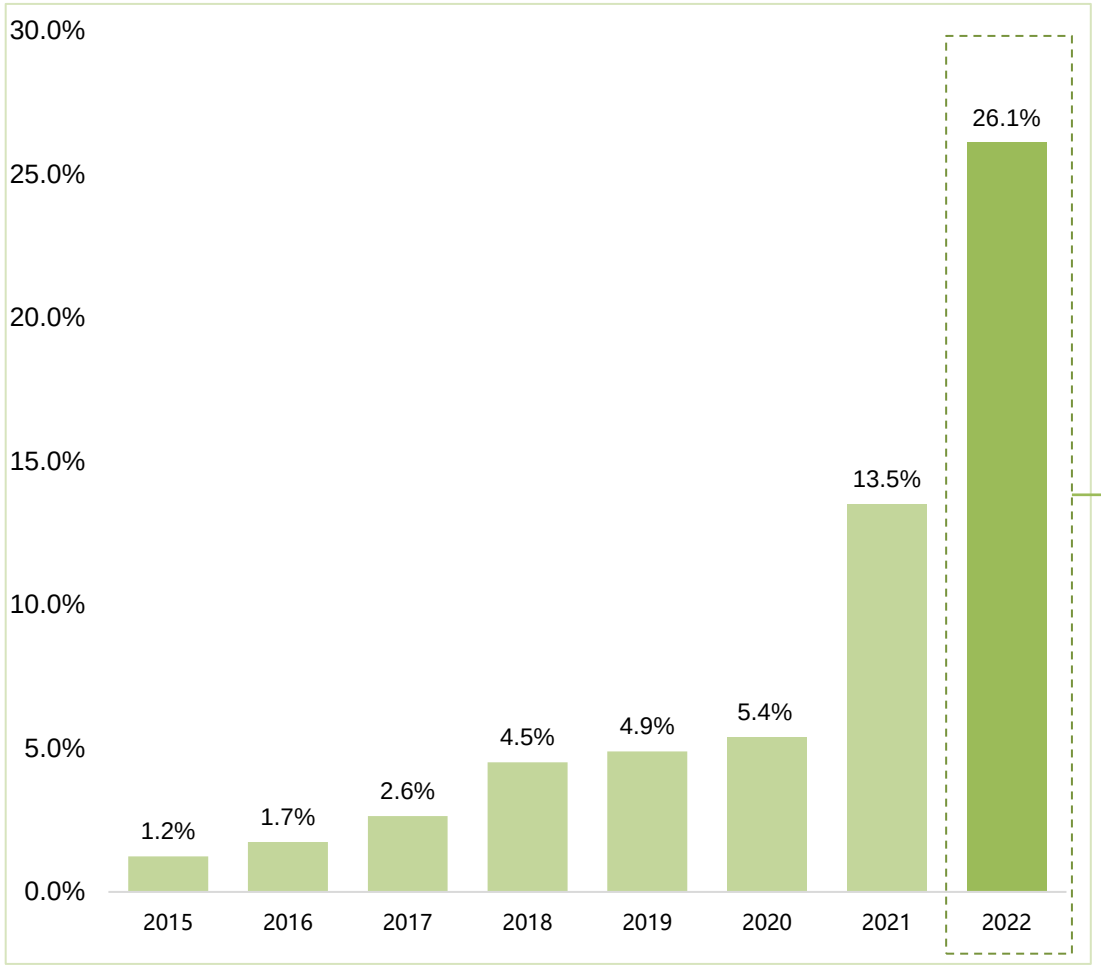
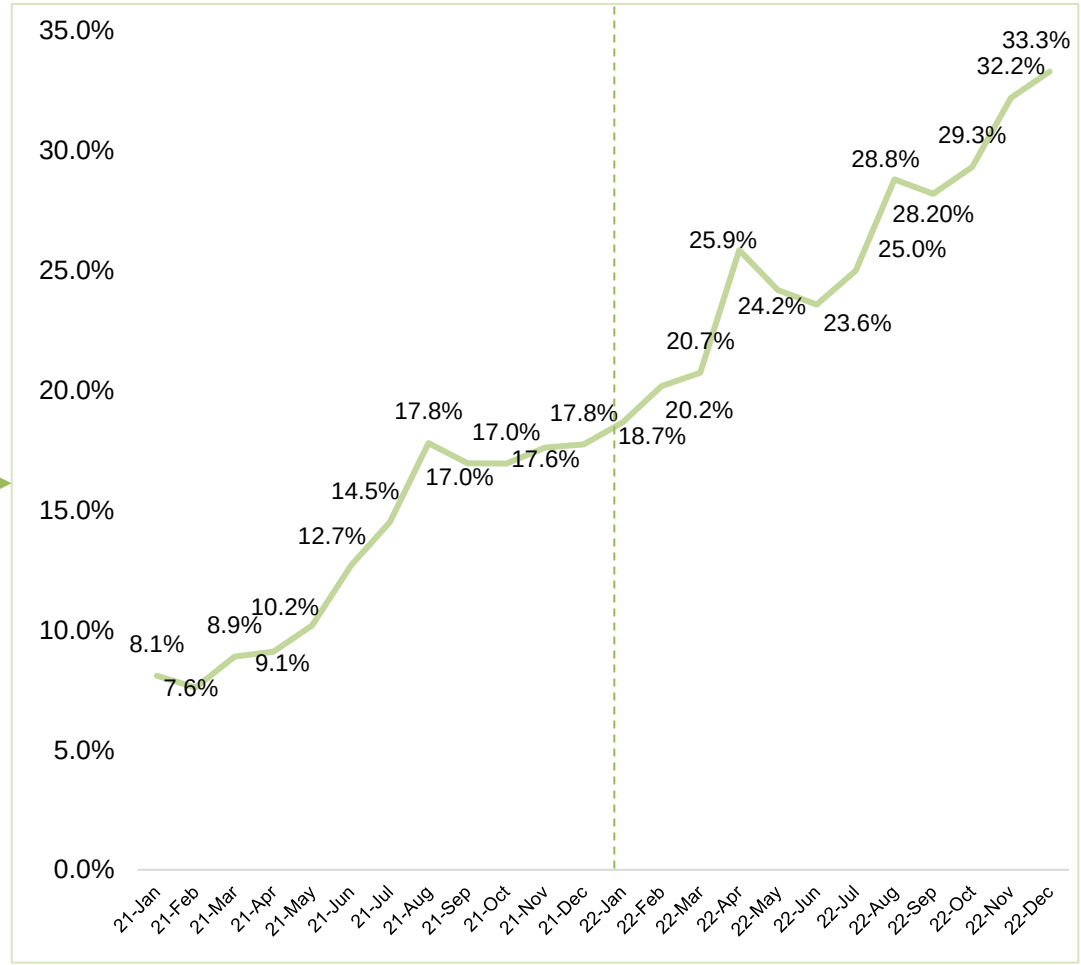
In 2022, NEV accounted for 26.1% of the total vehicle production, and the monthly share set a record of 33.3% in December

Share of NEV Production to Total Vehicle Production 2015 - 2022



Monthly Share of NEV Production to Total Vehicle Production

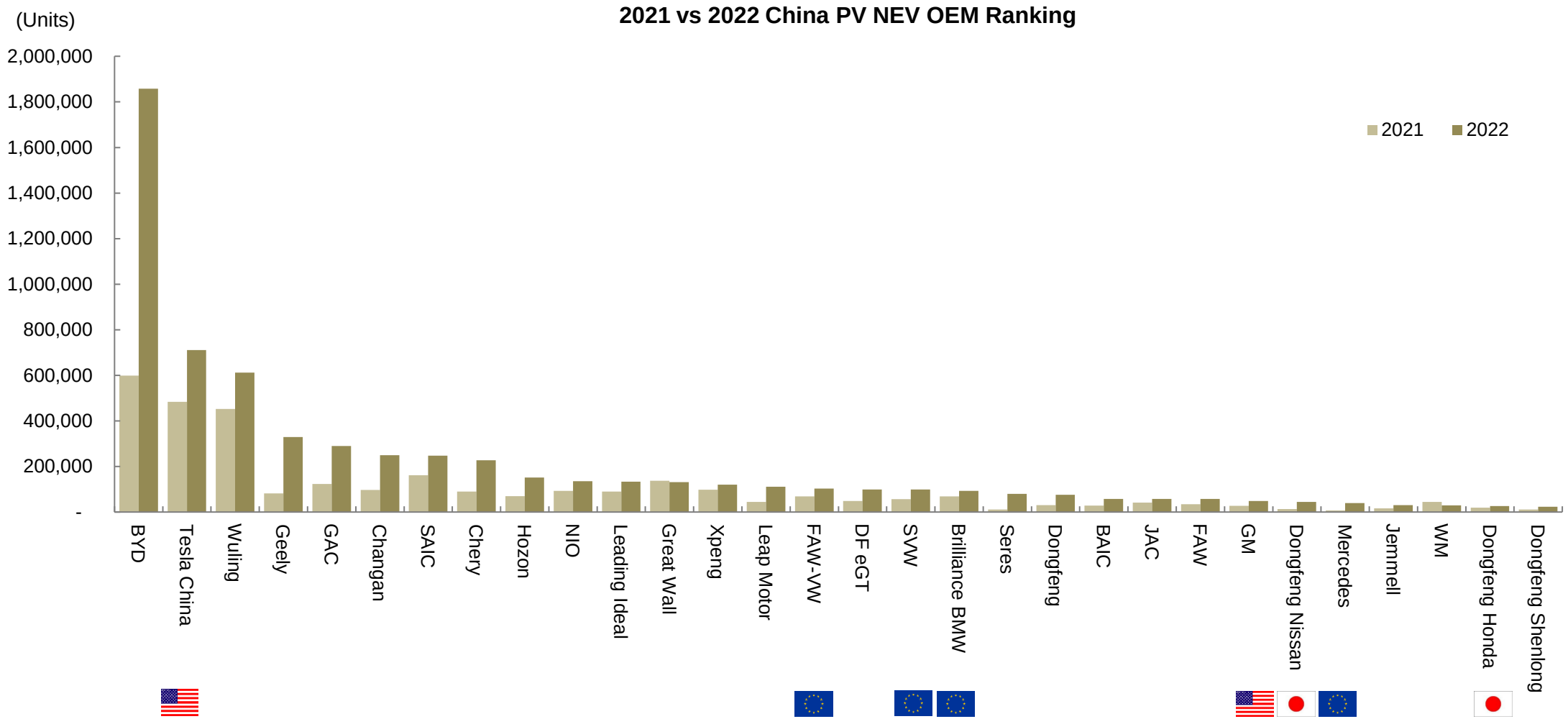


Source: CAAM; AutoForesight Research & Analysis

China PV NEV OEM Ranking - 2022

AutoForesight®

China local brands still took the lead, only 2 foreign manufacturers entered Top-15

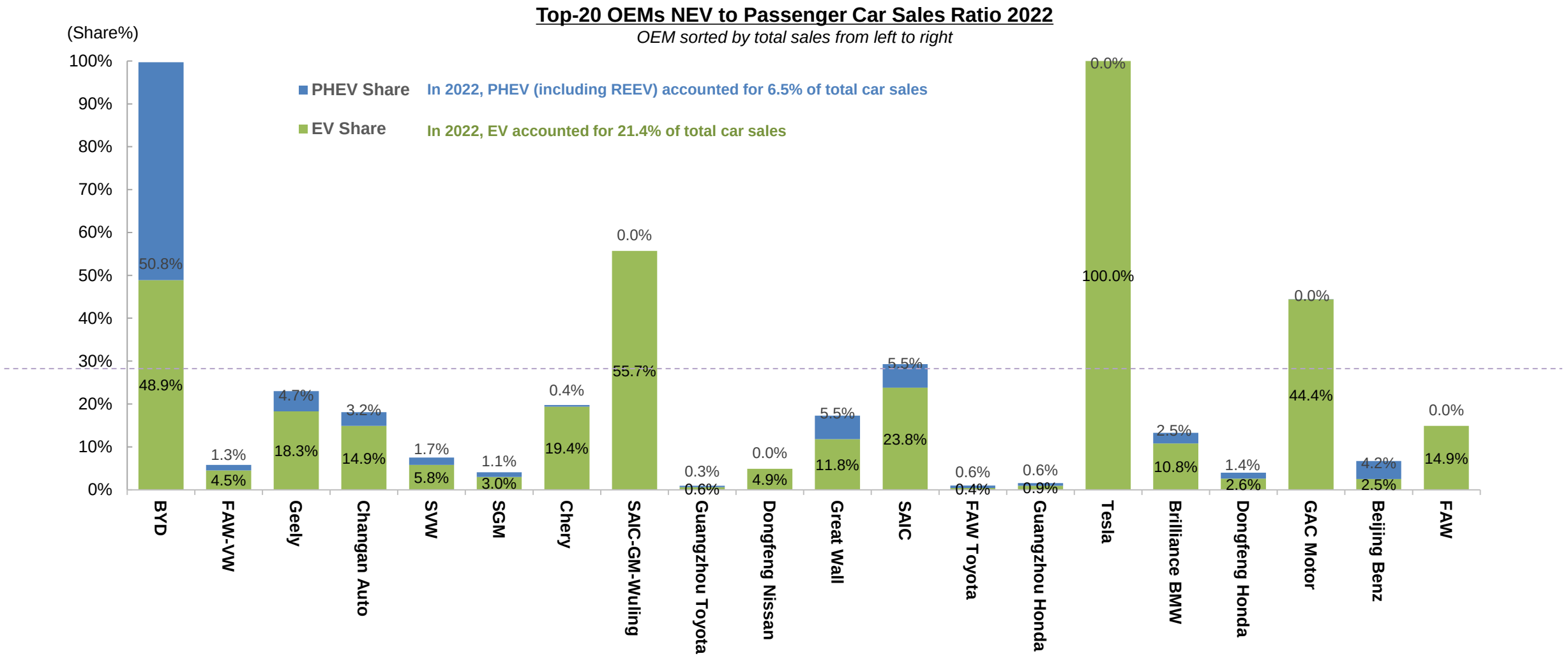


Source: CAAM; AutoForesight Research & Analysis

Top-20 Manufacturers' NEV to Passenger Car Sales Ratio

AutoForesight®

In 2022, Tesla registered the highest EV to passenger car sales ratio, followed by Wuling & BYD

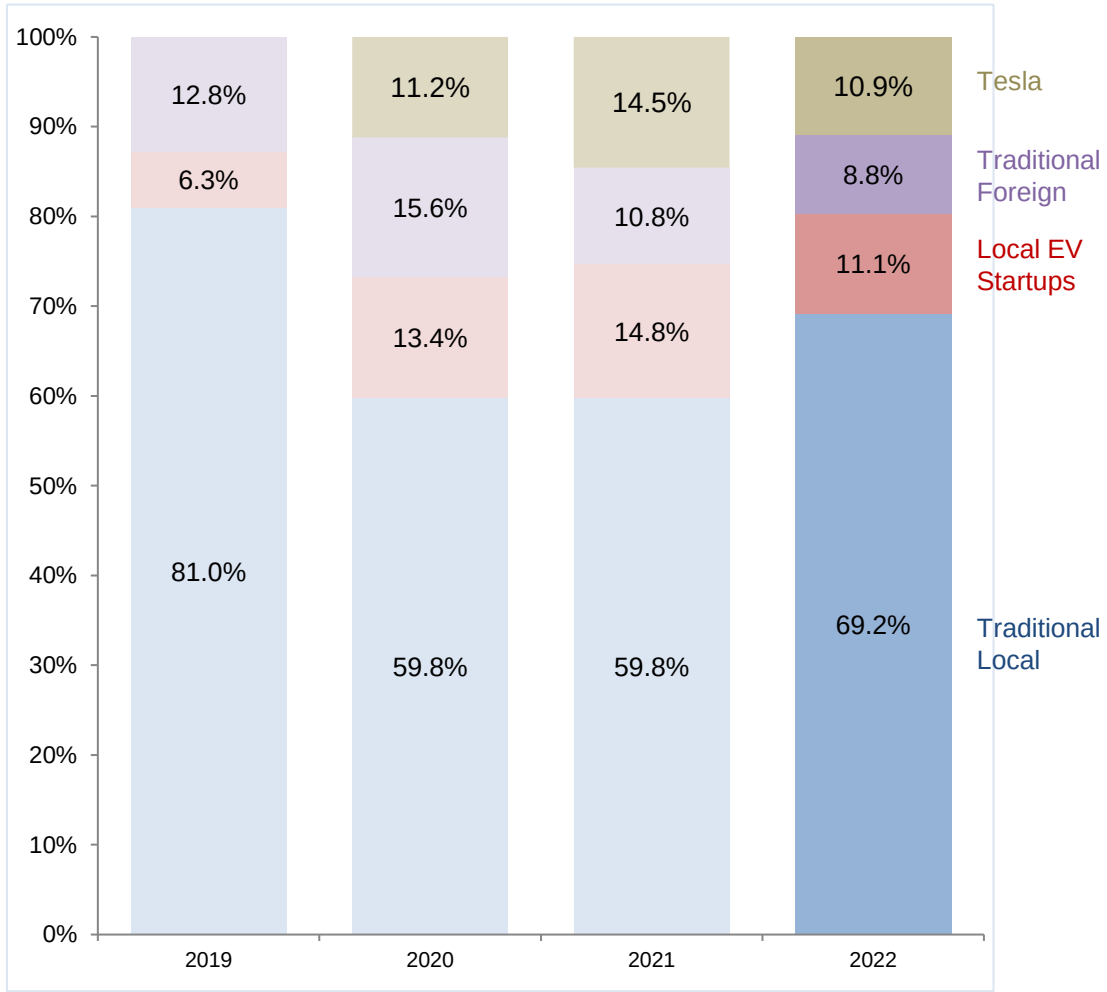


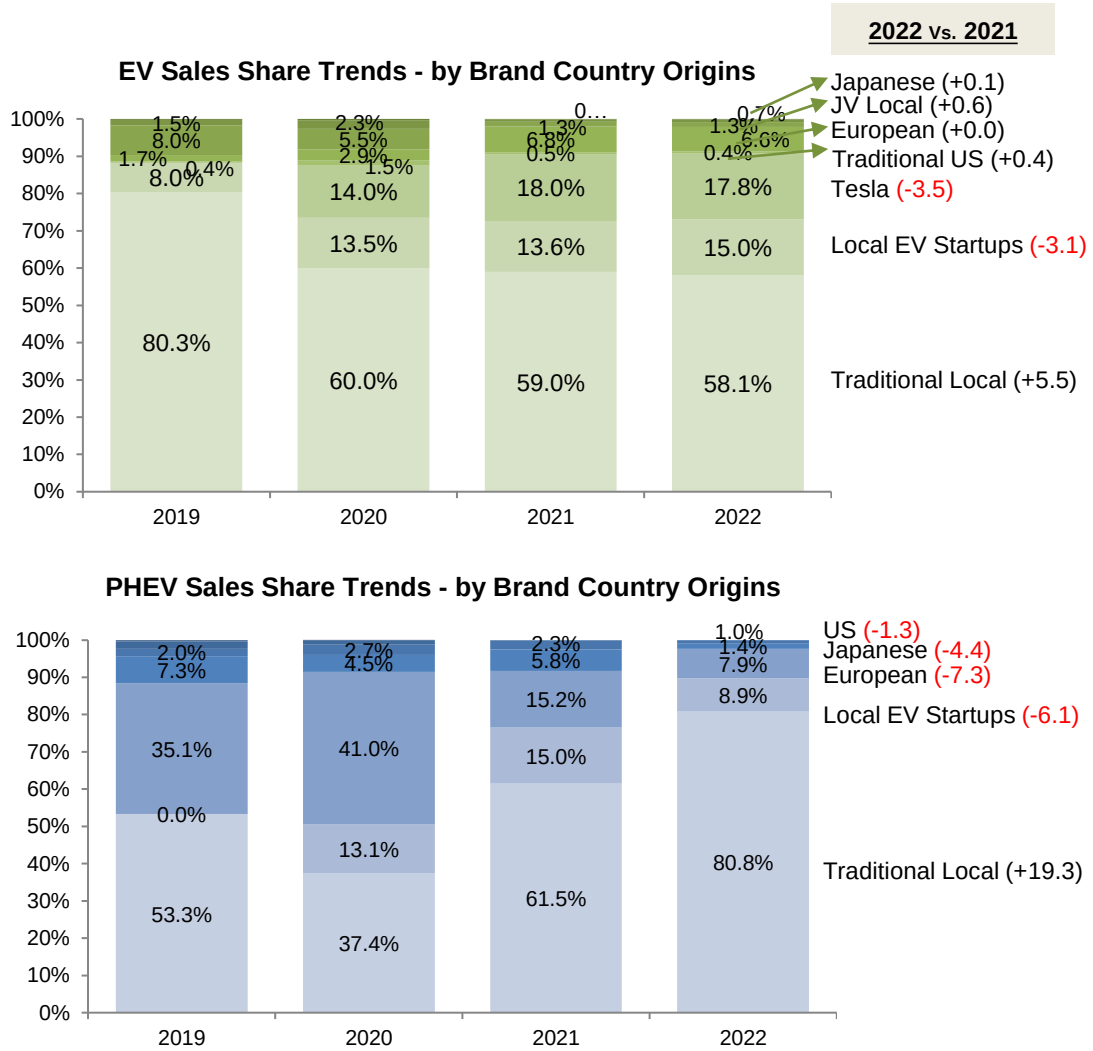
Source: OEM Website & AutoForesight Research

NEV Sales Share Trends - By Country

AutoForesight®

In 2022, NEV share of foreign brands accounted for 19.7%, half of which came from Tesla





Sources: CAAM; AutoForesight Research & Analysis

Hybrid Technology Route - Toyota vs. Honda

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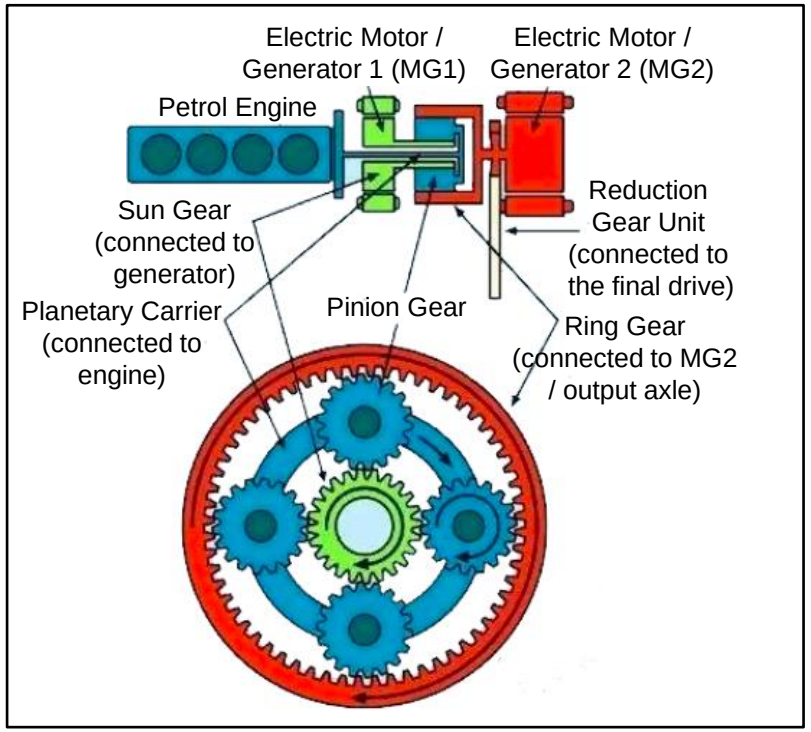
Honda i-MMD system is relatively simple, balancing fuel consumption, power and cost better. The planetary gear structure of Toyota THS system is complex, although the driving is smooth, the manufacturing process requirements are too high.

Schematic Diagram of Toyota THS System



Toyota THS system:

- Power combination of high power fuel engine and low power motor
- It is a structure between series and parallel. The engine and motor can be blended into two different power flow outputs through planetary gears, that is, motor and engine cooperate to drive vehicle simultaneously

Toyota THS vs. Honda i-MMD:

Advantages of Toyota THS system:

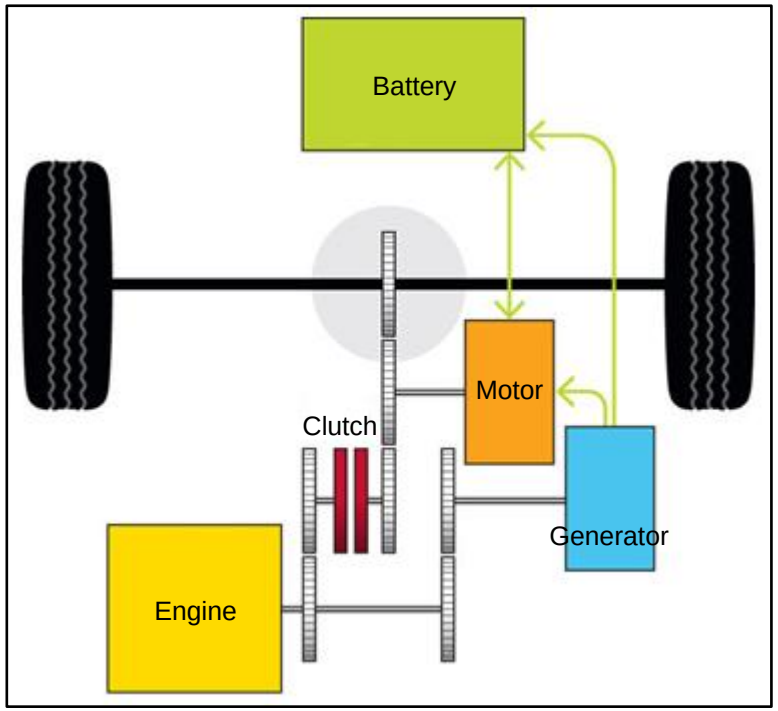
- Toyota THS distributes the power of engine, MG1 and MG2 to achieve optimal control among emission, fuel consumption and power, so as to save energy and fuel
- Compared with Honda i-MMD, Toyota THS is less dependent on motor power, so it has relatively low requirements for electric drive performance and the corresponding electric drive cost is low

Advantages of Honda i-MMD system:

- The structure is simpler than Toyota THS system
- The motor drives the vehicle directly, so it accelerates quickly
- The engine is often in a high speed range, so that the engine can obtain the highest fuel efficiency and maximize fuel efficiency

In general, Toyota THS hybrid focuses on the efficiency of oil-electric coordination, while Honda i-MMD hybrid focuses on electric drive

Schematic Diagram of Honda i-MMD System



Honda i-MMD system:

- Power combination of high power motor and low power fuel engine
- Most of the daily working conditions are in series mode. The engine only acts as a generator, and the motor directly drives the vehicle
- In fact, i-MMD is more like an range-extended electric drive system with direct drive function by engine than a hybrid system

Sources: AutoForesight Research & Analysis

Agenda

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GDP Forecast – 2023

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Major economic institutions estimated China 2023 GDP would grow 3.8% - 5.6%

Research Institutions' Outlook Of China 2023 GDP

Firms	2023 GDP Forecast
Barclays	3.8%
World Bank	4.3%
Deutsche Bank	4.3%
J.P. Morgan	4.3%
IMF	4.4%
Goldman Sachs	4.5%
Standard Chartered Bank	4.5%
ADB	4.5%

Firms	2023 GDP Forecast
Allianz	4.5%
UBS	4.6%
Nomura	4.8%
Morgan Stanley	5.4%
Merrill Lynch	5.4%
DBS Group	5.4%
Citigroup	5.6%

Source: Media; AutoForesight Research & Analysis

NEV Subsidies & Purchase Tax Exemptions

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The NEV subsidy was canceled in early 2023. The purchase tax exemption will be eliminated in early 2024.

NEDC(km)	EV Subsidy				
	Subsidy Amount 2018 (RMB)	Subsidy Amount 2019 (RMB)	Subsidy Amount 2020 (RMB)	Subsidy Amount 2021 (RMB)	Subsidy Amount 2022 (RMB)
100km≤R < 150km	0	0	0	0	0
150km≤R < 200km	15,000	0	0	0	0
200km≤R < 250km	24,000	0	0	0	0
250km≤R < 300km	34,000	18,000	0	0	0
300km≤R < 400km	45,000	18,000	16,200	14,400	9,100
R≥400km	50,000	25,000	22,500	20,000	12,600

	PHEV Subsidy				
	Subsidy Amount 2018 (RMB)	Subsidy Amount 2019 (RMB)	Subsidy Amount 2020 (RMB)	Subsidy Amount 2021 (RMB)	Subsidy Amount 2022 (RMB)
R≥50km	22,000	10,000	9,000	8,000	4,800

Source: MOF; AutoForesight Research & Analysis

Agenda

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Passenger Car Demand Outlook – 2023

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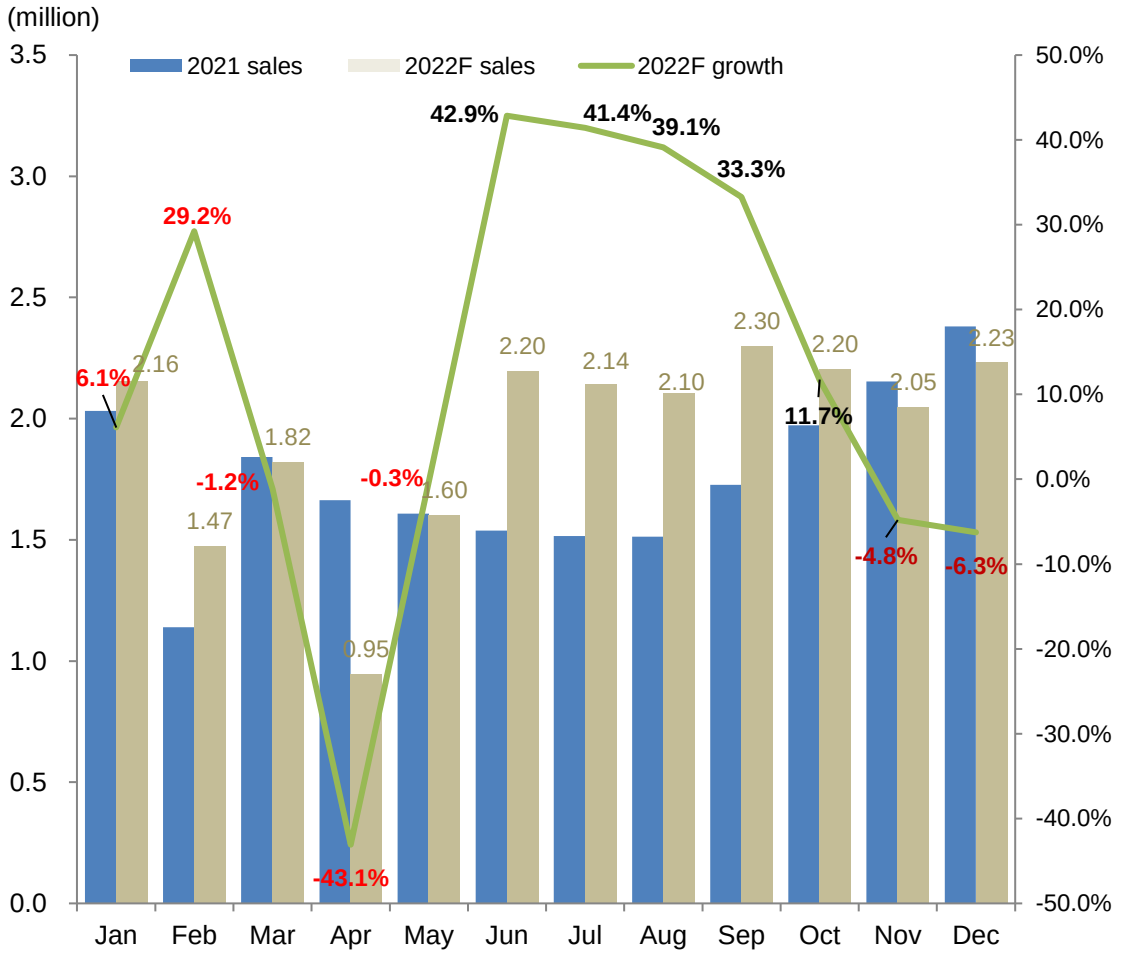
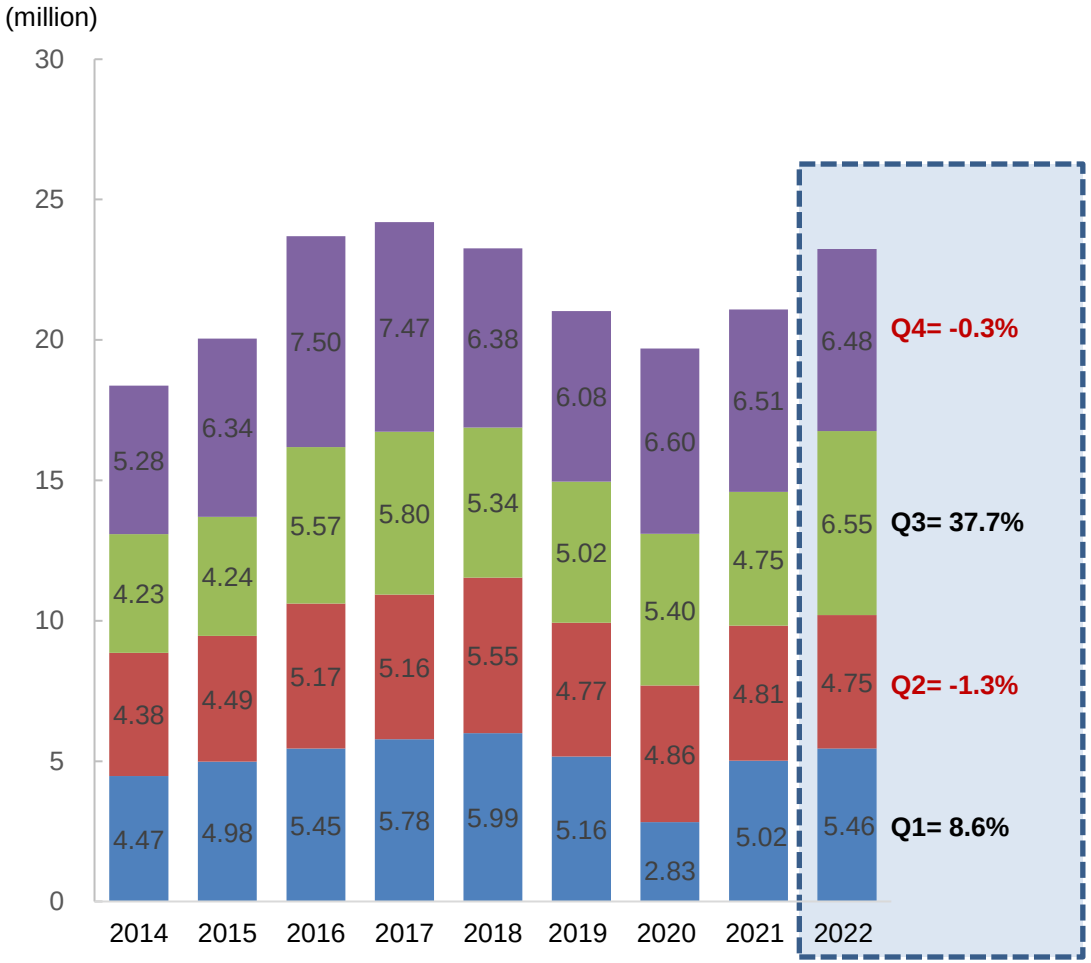
China 2022 car sales increased by 10% to 23 million units. It is expected 2023 car market will have no growth, due to ending of policy stimulus

Passenger Car Monthly Sales and Growth (%)



Passenger Car Quarterly Sales Volume



Sources: CAAM; AutoForesight Research & Analysis

Thanks!

Zhang Yu
Managing Director
Automotive Foresight (Shanghai) Co., Ltd.

Tel: 86-21-3868-0868
Cell: 86-18621807182
Email: yz@autoforesight.com

Zhang Yu's WeChat QR Code:

China Passenger Car Market Updates

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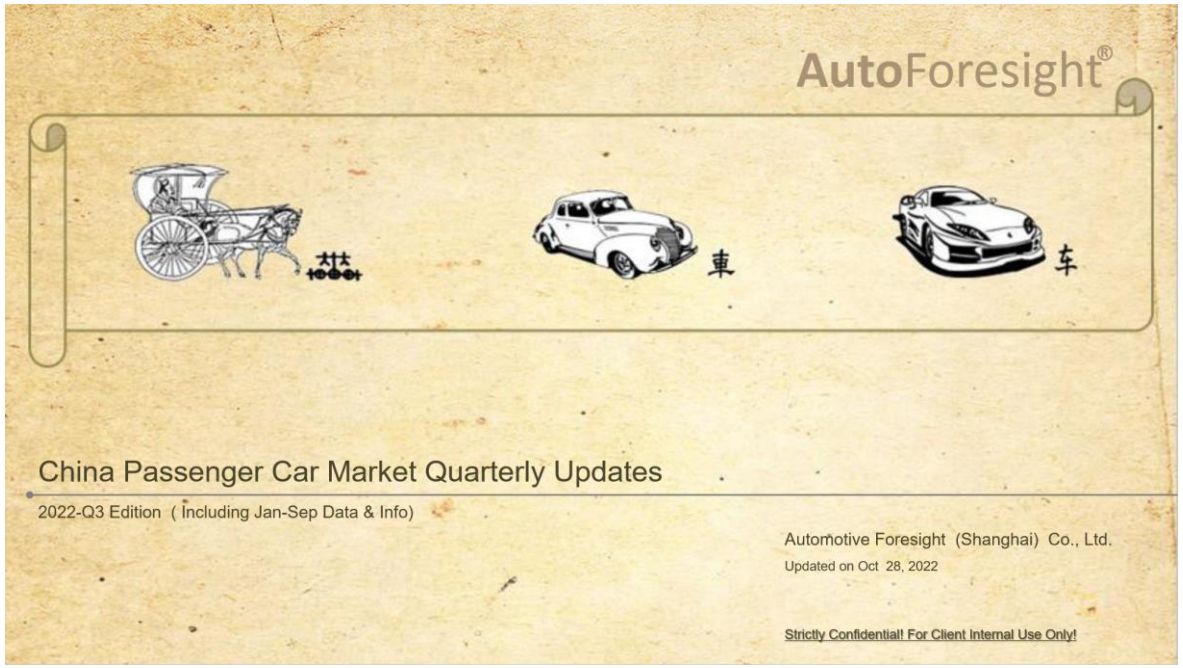
Launched in 2012, China Passenger Car Market Updates is our basic product, updated quarterly/monthly, covering all aspects of current market/policy/competitive situation/forecast.

China Passenger Car Market Quarterly/Monthly Updates



Agenda

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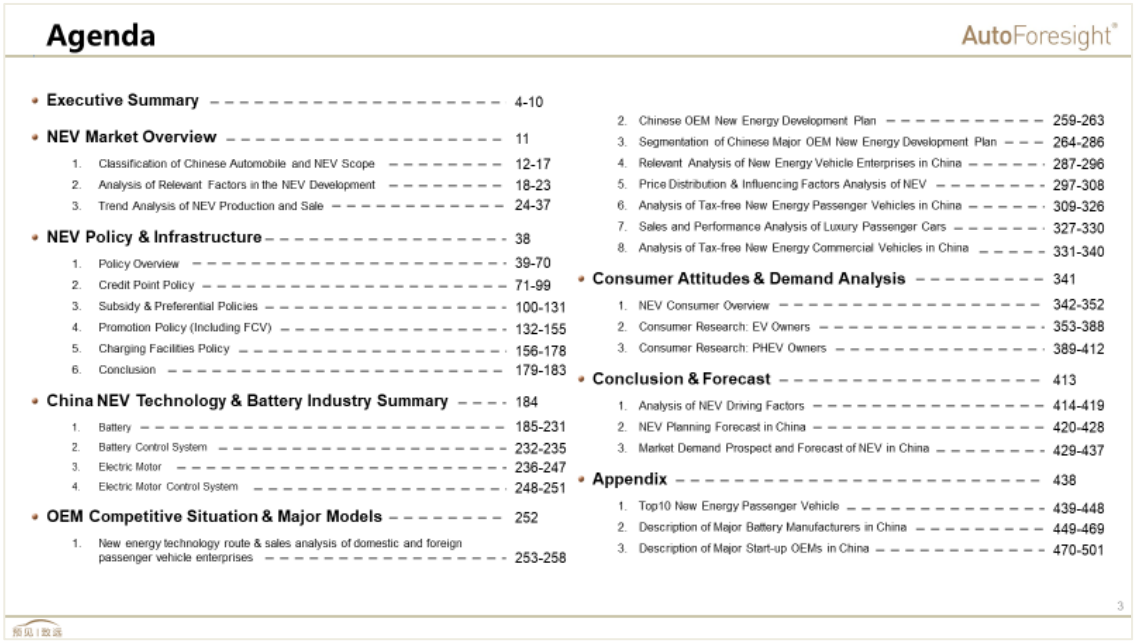
Note: The China Passenger Car Market Quarterly Updates is updated at the end of January, April, July and October each year; The China Passenger Car Market Monthly Updates is completed by the end of each month

China’s NEV Market Annual Report

AutoForesight®

Launched in early 2015, an annual updated in-depth analysis report on NEV policies, markets, technologies, consumer attitudes and forecasts; The Market Overview, Policy and Forecast sections are updated monthly.

China NEV Semi-Annual/Monthly Updates



Agenda

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Note: The annual report on new energy is updated at the end of March each year (Chinese & English version); The other eleven monthly updates will be completed before the end of each month, NEV hot topics will be selected for analysis every month, and the selection of monthly topics can be discussed and agreed with customers.

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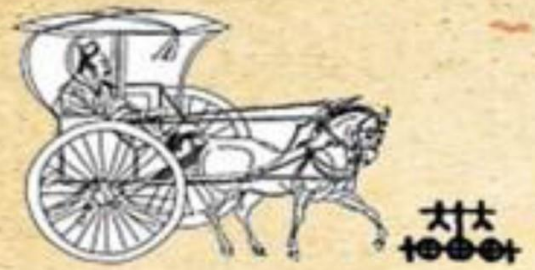

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