

# China New Energy Vehicle Market Outlook

PIM China, Ltd  
November, 2017

## Executive Summary

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### **This public review of China's new energy vehicle market's current status and future development trend**

#### **Within the content and key findings are:**

- The total automobile sector sales volume was predicted to reach 29,400,000 units in 2017, in which passenger cars would take 87.4%
- The NEV sales volume showed great fluctuation in the past 7 years, mainly because of the changes of government policies.
- In general, selling price of PHEV was higher, and the NEV market was dominated by BEV
- The NEV market was highly promoted by three policies: a) Incentive of high subsidies from central and local government; b) Preferential policies regarding NEV license plate obtainment and traffic control in different cities; c) The direct push from government for certain segments
- The latest big major policies, regulations and news have shown significant impact on the development of China's NEV market development, such as the time table of banning designing of all future conventional fuel vehicles
- Detailed introduction of the implementation of "Dual Credit" policy

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## China Total Auto Sales (2011-2017E, thousand units)

	2011	2012	2013	2014	2015	2016	2015 y/y	2016 y/y Forecast	2017 CAAM Forecast
<b>Grand Total</b>	<b>18,505</b>	<b>19,306</b>	<b>21,984</b>	<b>23,492</b>	<b>24,598</b>	<b>28,028</b>	<b>13.94%</b>	<b>4.90%</b>	<b>29,400</b>
<b>Passenger Cars Total</b>	14,472	15,495	17,929	19,701	21,146	24,377	15.28%	5.40%	25,700
<b>Sedans &amp; Hatchbacks</b>	10,123	10,745	12,010	12,377	11,720	12,150	3.67%		Sedan models continue to decrease
<b>SUV's</b>	1,594	2,000	2,989	4,078	6,220	9,047	45.45%		Increase continues
<b>MPV's</b>	498	493	1,305	1,914	2,107	2,497	18.49%		Increase continues
<b>Mini Vans</b>	2,258	2,257	1,625	1,332	1,099	684	-37.81%		-
<b>Commercial Vehicles Total</b>	4,033	3,811	4,055	3,791	3,451	3,651	5.80%	1.30%	3,700
<b>Trucks/Semi Trailers</b>	3,545	3,304	3,496	3,184	2,856	3,108	8.82%		Tracks will increase
<b>Buses</b>	488	507	559	607	595	543	-8.67%		Declines continue

- Passenger cars took 87% of the total auto sales in China, and SUV 's were the fastest growing segment in recent years
- CAAM estimated the increase in the number of new vehicle sales will be moderate, due to the decrease of GDP growth rate and current policies and administrative movements, such as the increase of vehicle purchase tax rate starting from 2017

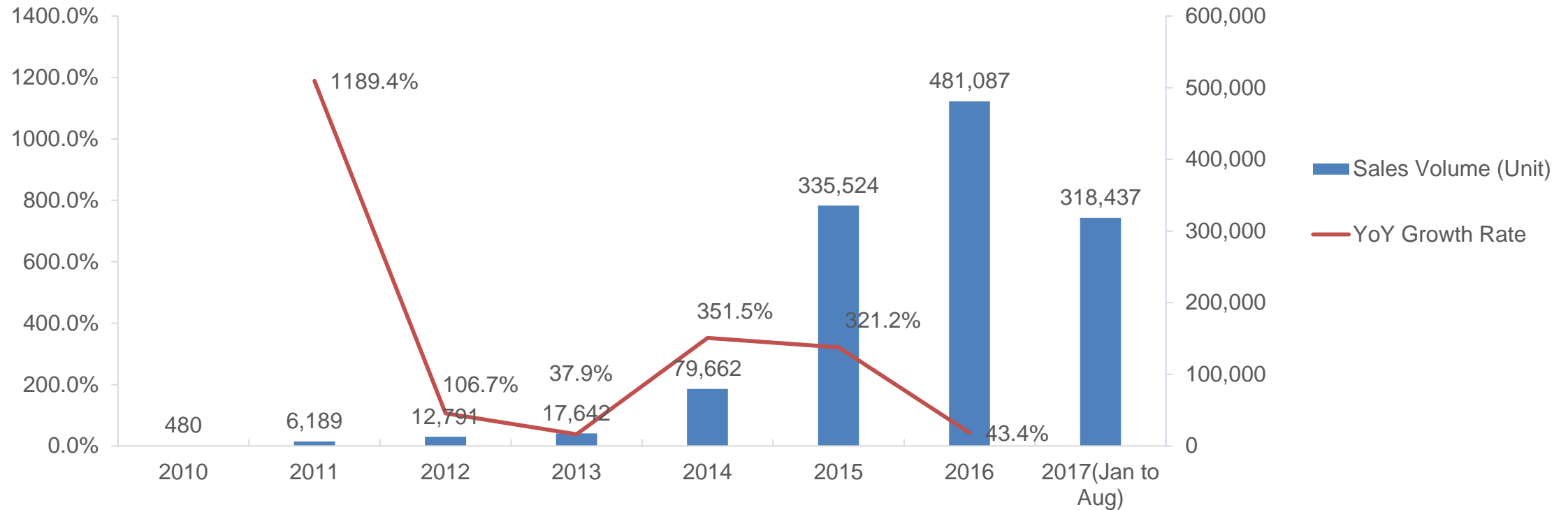
Note: \*All the sales figures are on a wholesale basis, and include exports and commercial vehicles

\*\*From 2013, some minivan models were reclassified as MPVs

\*\*\*The minivan category includes all passenger cars except sedans and hatchbacks, and SUVs and MPVs

Source: Figures from CAAM and Marklines. PIM analysis in September, 2017

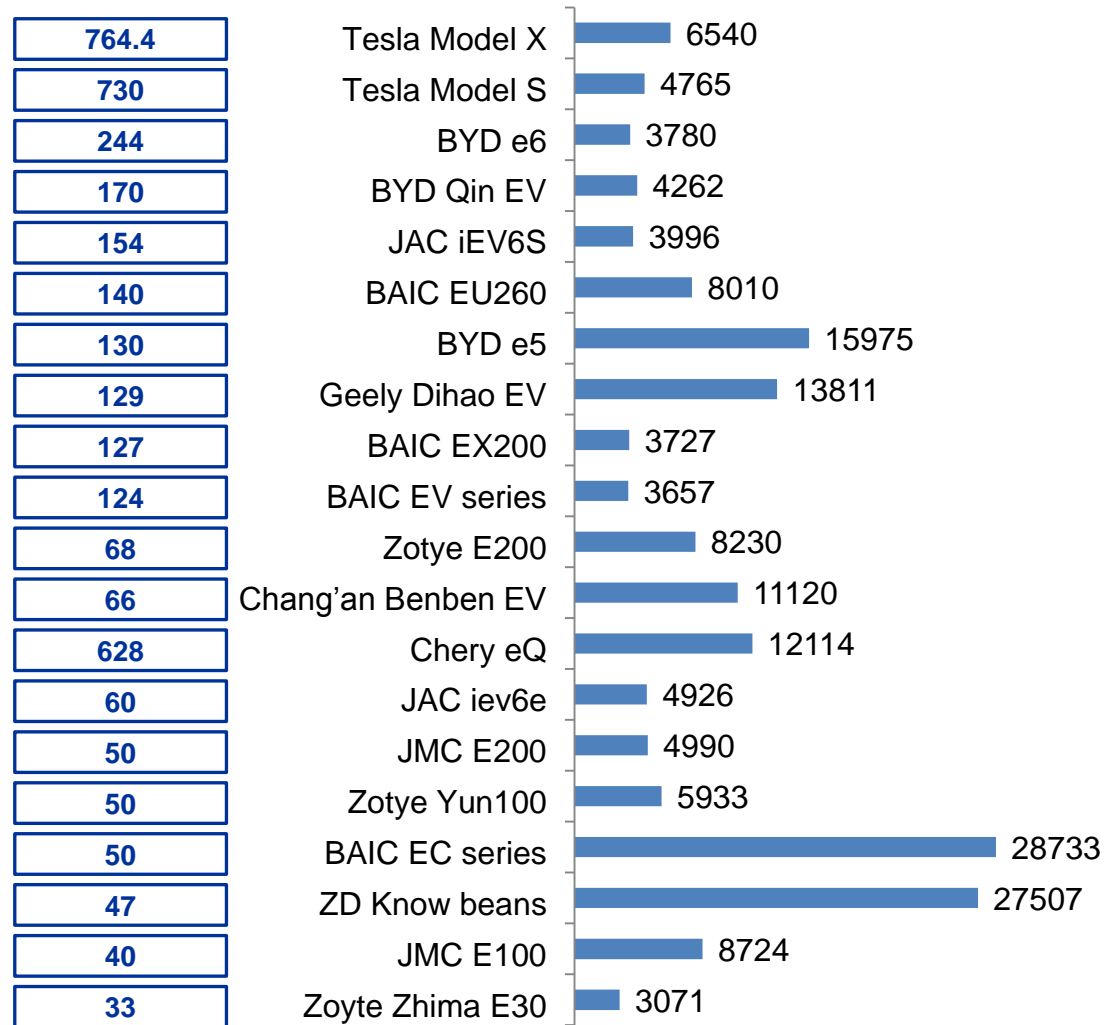
## China NEV Sales Volume & Growth Rate (Domestic and Import)<sup>1,2,3</sup>



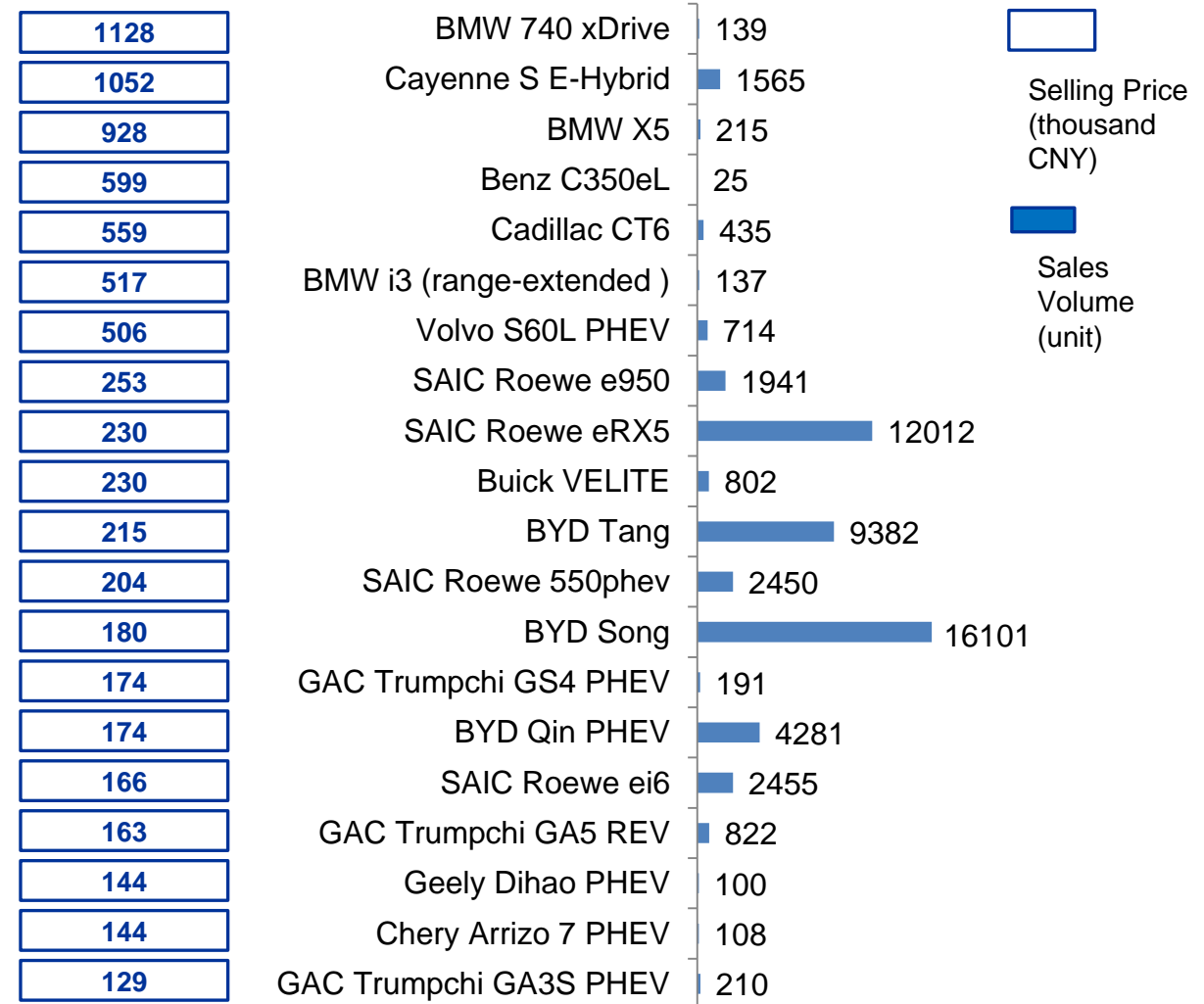
- The NEV sales kept increasing in the past years, but fluctuated greatly

Source: 1. China Passenger Car Association (CPCA)  
 2. State Information Center  
 3. CAAM, PIM analysis in October, 2017.

### Major BEV Models' Sales Price & Volume in 2016



### Major PHEV Models Sales' Price & Volume in 2016



Source: State Information Center & PIM analysis in November, 2017

## Current policies promoted rapid development of NEV (I)

### I. Incentive of high subsidies from central and local government

#### NEV Passenger Car Purchase Subsidies By Cities (Year 2016, range 150~250km BEV as example)

	Central Government Subsidy	Provincial Government Subsidy	City-Level Government Subsidy	Total Subsidy
Beijing Municipality	45,000 CNY	-	45,000 CNY	90,000 CNY
Shanghai Municipality	45,000 CNY	-	30,000 CNY	75,000 CNY
Shenzhen City, Guangdong Province	45,000 CNY	-	50,000 CNY	95,000 CNY
Hangzhou City, Zhejiang Province	45,000 CNY	-	30,000 CNY	75,000 CNY
Nanjing City, Jiangsu Province	45,000 CNY	15,000 CNY	23,000 CNY	83,000 CNY
Dalian City, Liaoning Province	45,000 CNY	-	36,000 CNY	81,000 CNY
Dongguan City, Guangdong Province	45,000 CNY	-	45,000 CNY	90,000 CNY
Guiyang City, Guizhou Province	45,000 CNY	11,250 CNY	11,250 CNY	67,500 CNY
Haikou City, Hainan Province	45,000 CNY	22,500 CNY	22,500 CNY	90,000 CNY
Wuhan City, Hubei Province	45,000 CNY	-	45,000 CNY	90,000 CNY
Changchun City, Jilin Province	45,000 CNY	22,500 CNY	22,500 CNY	90,000 CNY
Xi'an City, Shaanxi Province	45,000 CNY	-	45,000 CNY	90,000 CNY

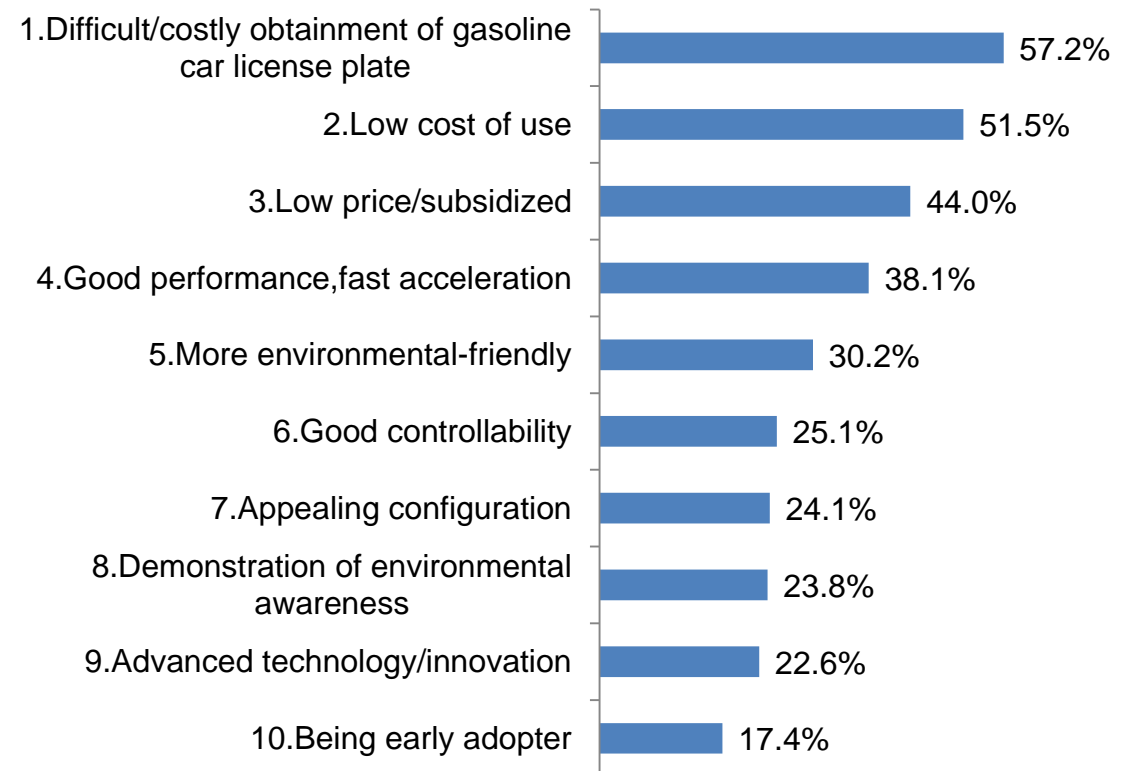
Source: State Information Center & PIM analysis in November, 2017

## Current policies promoted rapid development of NEV (II)

### II. Preferential policies regarding NEV license plate obtainment and traffic control in different cities

City	Policy
Beijing Municipality	<ul style="list-style-type: none"> <li>60k NEV license plate for 2016 and 2017 respectively – First come first serve, no lottery process</li> <li>No traffic restrictions for NEVs</li> </ul>
Shanghai Municipality	<ul style="list-style-type: none"> <li>Approval upon application, no bidding process</li> </ul>
Shenzhen City, Guangdong Province	<ul style="list-style-type: none"> <li>No lottery or bidding process for NEV license plates</li> <li>It is still allowed to participate in gasoline car license plate lottery after BEV license plate application</li> </ul>
Hangzhou City, Zhejiang Province	<ul style="list-style-type: none"> <li>No lottery or bidding</li> <li>No traffic restrictions during morning and evening peak hour or around scenic areas</li> </ul>
Wuhan City, Hubei Province	<ul style="list-style-type: none"> <li>Toll reductions and exemptions</li> </ul>

#### Top 10 Reasons for NEV Purchase in Cities (Cities with Vehicle Purchase Restriction)

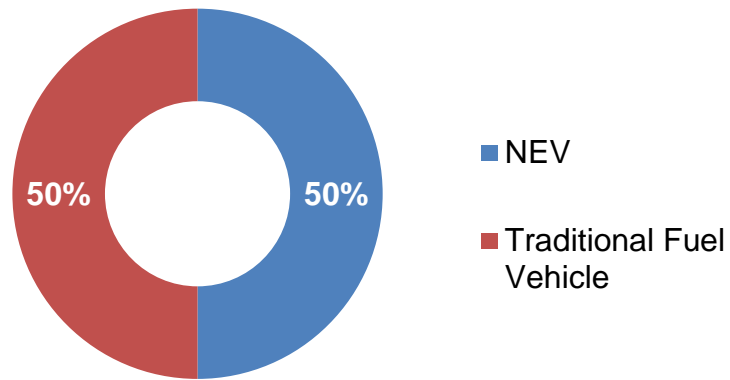


Source: State Information Center PIM analysis in November, 2017

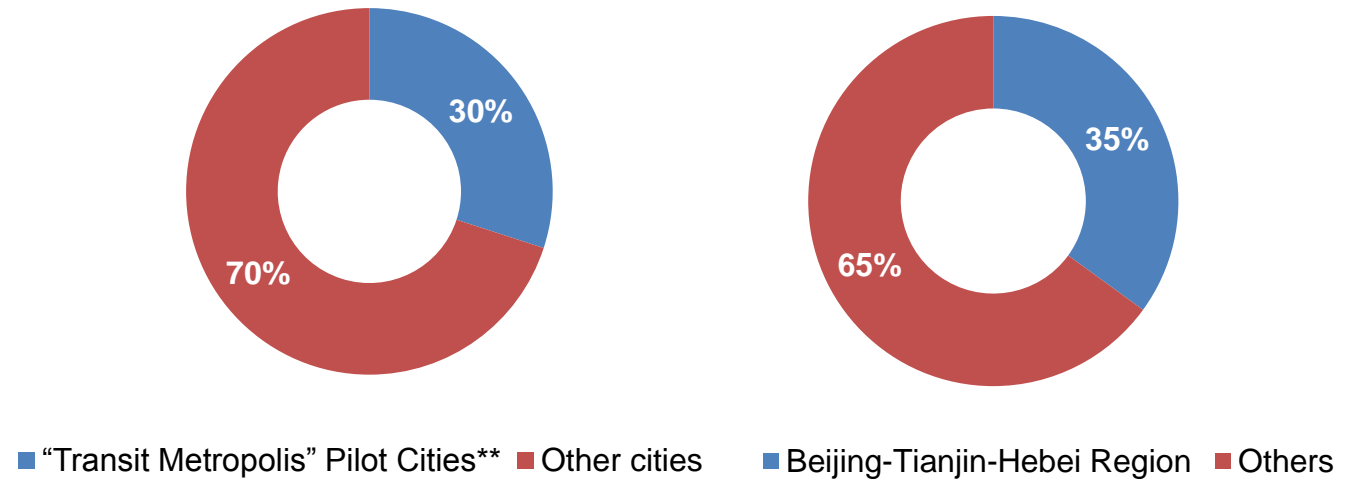
## Current policies promoted rapid development of NEV (III)

### III. The direct push from government for certain segments

NEV Percentage Requirement in Officer Car Replacement\*



Government Policy Pushing Promotion of NEV Taxi:2020 Goals



.Note: \* Percentage of NEV purchases in vehicle replacement in central government, NEV promotion city government and public facilities

\*\* “Transit Metropolis” Pilot Cities include Beijing, Shenzhen, Chongqing, Nanjing, Wuhan, Changsha, Shanghai, Tianjin, Guangzhou, Hangzhou, etc. altogether 37 cities.

Source: State Information Center & PIM analysis in November, 2017



## Latest New Policies on NEV

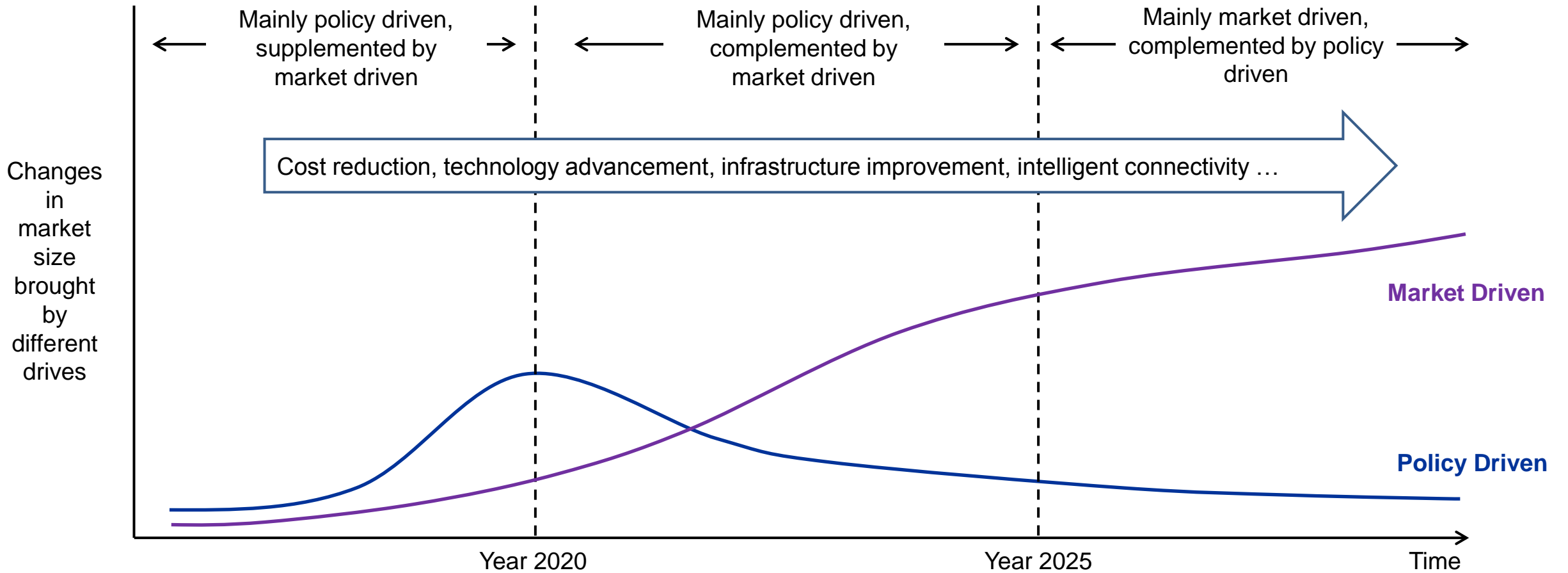
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- The development of NEV is highly driven by government policies in China, and the recent important ones are:
  1. New guidelines on automotive investment. A major highlight is that the door for traditional fuel-powered vehicle investment projects is virtually shut, but new Sino-foreign joint ventures that produce only battery electric vehicles will no longer be bound by the Automotive Industry Development Policy (AIDP)
  2. Intelligent vehicles and self-driving technology are key components of China's new AI development plan. Electric vehicle shows advantages in becoming self-driving, compared with traditional fuel vehicle
  3. The Parallel Administrative Measures for Passenger Vehicle Corporate Average Fuel Consumption (CAFC) and New Energy Vehicle (NEV) Credits , otherwise known as the CAFC + NEV "Dual Credit" policy, a quota system to goad automakers to drastically expand electric vehicle production, is officially landed and to be enacted on April 1<sup>st</sup>, 2018<sup>1</sup>
- China will gradually ban all fuel vehicle sales in the future, and is designing the timetable right now
- NEV subsidies are decreasing gradually. According to the newly updated subsidy standards in December 2016, the national subsidies in 2020 shall be reduced 20% compared with in 2019, while local subsidies should not exceed 50% of the national subsidies. Subsidies favor the models with high battery's energy density. For example, buyer for the BEV with battery energy density higher than 120Wh/kg can receive 1.1 times subsidies<sup>2</sup>

Source:

1. MIIT: <http://www.miit.gov.cn/n1146295/n1146557/n1146624/c5824932/content.html>
2. MIIT: <http://www.miit.gov.cn/n1146285/n1146352/n3054355/n3057585/n3057590/c5449526/content.html>
3. CAAM, PIM analysis in September, 2017.

## “Dual Credit” policy will push substantial expansion of NEV market size



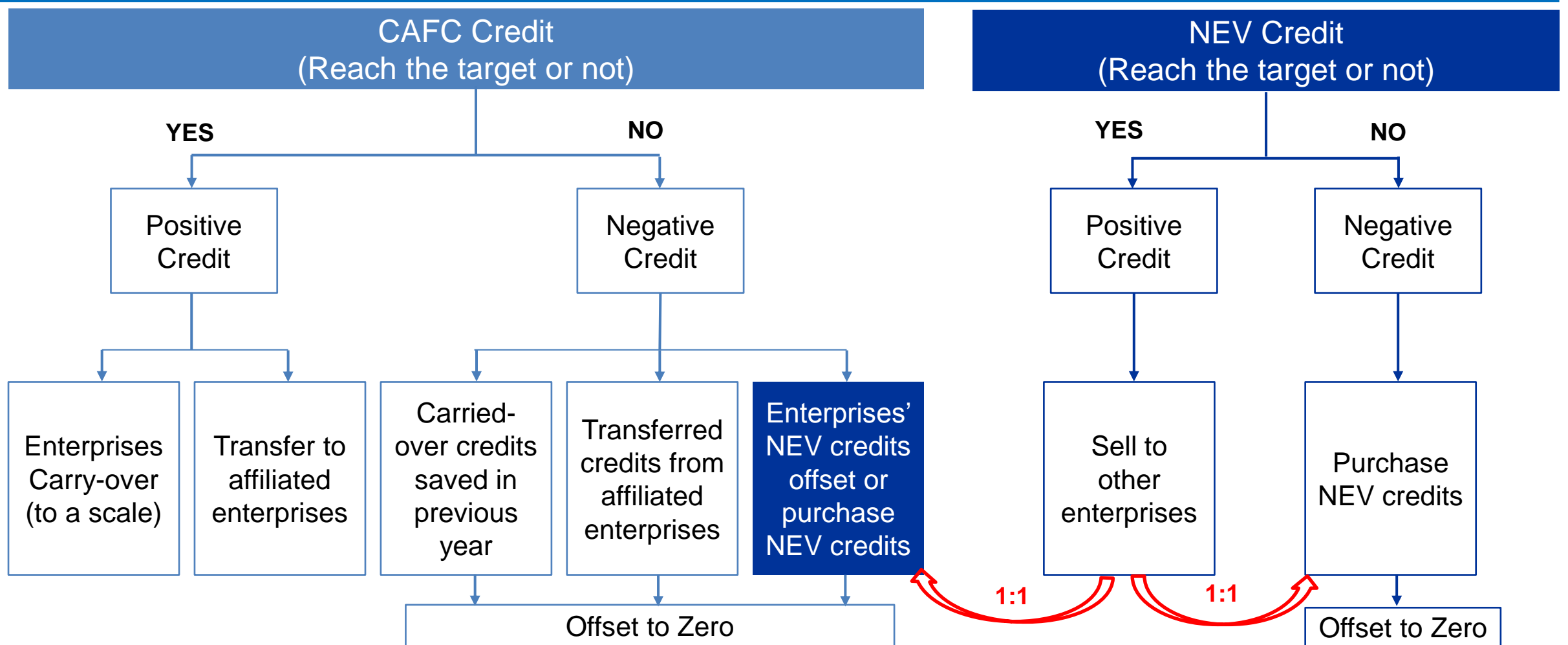
Source: State Information Center PIM analysis in November, 2017

## Illustration of CAFC + NEV “Dual Credit” Policy (I)

	CAFC Credit	NEV Credit
Target	<ul style="list-style-type: none"> <li>Domestic passenger vehicle manufacturers and imported car dealers (traditional vehicle manufacturers whose annual production over 2,000 units)</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicle manufacturers and imported car dealers (traditional vehicle manufacturers whose annual production over 30 thousand units)</li> </ul>
Effective Time	<ul style="list-style-type: none"> <li>2016</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> April, 2018</li> </ul>
Calculation	<ul style="list-style-type: none"> <li>Formula:                             <math display="block">\text{CAFC} = \frac{\sum_{i=1}^N \text{FC}_i \times V_i}{\sum_{i=1}^N V_i \times W_i}</math> </li> <li>Computing method: Standard Value* – Actual Value (if the result &gt;0, act as positive credit; if the result &gt;0, act as negative credit )</li> </ul>	<ul style="list-style-type: none"> <li>NEV % required:                             <ul style="list-style-type: none"> <li>10% for 2019</li> <li>12% for 2020</li> </ul> </li> <li>Computing method: Actual Value – Standard Value (if the result &gt;0, act as positive credit; if the result &gt;0, act as negative credit )</li> </ul>
<b>All negative credits shall be offset into zero</b>		

.Note: \* Standard Value is in compliance with GB27999, based on the quality of complete vehicle kerb mass  
 Source: MIIT: [http://www.gov.cn/xinwen/2017-09/28/content\\_5228217.htm](http://www.gov.cn/xinwen/2017-09/28/content_5228217.htm)

## Illustration of CAFC + NEV “Dual Credit” Policy (II)



.Note: \* Standard Value is in compliance with GB27999, based on the quality of complete vehicle kerb mass  
 Source: MIIT: [http://www.gov.cn/xinwen/2017-09/28/content\\_5228217.htm](http://www.gov.cn/xinwen/2017-09/28/content_5228217.htm)

## Major OEMs' Strategic Plans for NEV

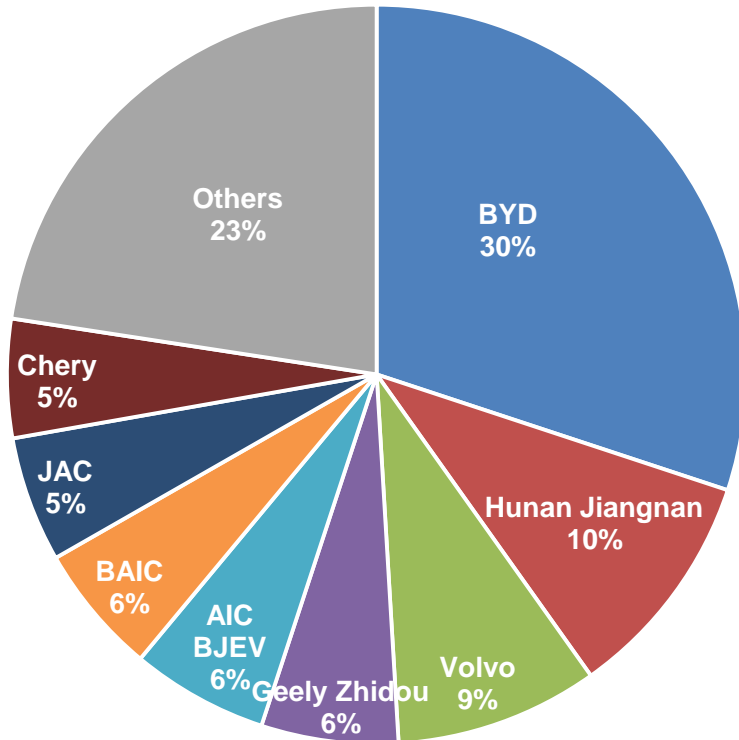
Company Name		NEV Target
Top 5 Auto Groups	SAIC	More than 20 billion CNY will be invested by 2020; More than 30 new NEV models will be launched; Aiming at 600,000 CNY sales
	FAW	By 2020, targets at achieving 6 NEV platforms, 16 models and preparing for the industrialization of NEV, and taking more than 15% market share
	CHANGAN	The investment will reach 18 billion CNY by 2025, 34 new models will be launched; the accumulated sales volume will reach 2 million units
	BAIC	By 2020, the annual sales will be 200,000 units by 2020, and taking more than 15% market share
	GAC	By 2020, GAC independent and JV's NEV production capacity will break 200,000 units
Other Independent Brand Groups	Geely	By 2020, the sales volume of NEV will account for more the 90% of the total (for NEV, PHEV and HEV taking 65%, and BEV taking 35%)
	Chery	By 2020, a new model will be launched for each year and aiming at reaching 200,000 sales volume
	JAC	By 2025, the NEV will take more than 30% of the one million total outputs and sales target

Source: <http://www.d1ev.com/news/zhengce/56933>

## Major NEV OEMs in China

No.	Company	No.	Company Name
1	SAIC Motor	19	FAW Haima (FAW Group)
2	SAIC-GM-Wuling (SAIC/GM/Guangxi Group)	20	Beiqi Foton (BAIC Group)
3	Dongfeng Yueda Kia (Kia/Dongfeng/Yueda Group)	21	GAC Toyota (GAC/Toyota Group)
4	Changan New Energy (Changan Group)	22	Zhidou Electric Vehicle (Geely Group)
5	JAC/Anhui Jianghuai Automobile	23	Great Wall
6	Chery New Energy (Chery Group)	24	Lifan New Energy (Lifan Group)
7	YUDO New Energy (Fujian Group)	25	Hawtai Motor
8	SAIC MAXUS (SAIC Group)	26	SAIC VW (SAIC/VW Group)
9	DFM/Dongfeng	27	SAIC GM (SAIC/GM Group)
10	FAW New Energy (FAW Group)	28	Zhengzhou Nissan (DFM/Nissan Group)
11	Beijing Electric Vehicle (BAIC Group)	29	Tianjin FAW Toyota (FAW/Toyota Group)
12	Geely	30	GAC/Guangzhou Automobile
13	Qoros Auto (Chery Group)	31	Brilliance Auto
14	Shenzhen DENZA New Energy Automotive (BYD/Daimler Group)	32	BMW Brilliance (Brilliance/BMW Group)
15	Zhejiang Jonway Automobile	33	Kandi Electric Vehicles (Geely/Kandi Group)
16	Youxia	34	BYD Auto
17	Naveco/Nanjing Iveco (SAIC/FCA Group)	35	Zotye New Energy (Zotye Group)
18	Dongfeng Nissan (DFM/Nissan Group)	36	Hybrid Kinetic Group

## EV/PHEV (Passenger Vehicle) Market Share (by OEM, in 2016)



- Sales of NEVs continued to grow y/y by roughly 1.5 times to 507,000 vehicles thanks to discounts from subsidies and priority licensing registrations
- Approximately 332,000 units of the NEVs sold were passenger vehicles. Four of BYD's models ranked in the top ten for NEVs, accounting for 30% of the market. In accordance with the expansion of the NEV market, in addition to companies like Hunan Jiangnan Automobile and Beijing New Energy Vehicle, there has been an increase in new small and medium-sized OEMs entering the market
- Compared with the government group OEMs, private group OEMs were more active in developing and selling NEVs

# Thank You!



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