

China New Energy Vehicle Report

July 2017

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2 Current situation for EV and plug-in hybrid passenger cars

The Chinese government announced in February 2016 that the technical standard of the existing electric cars on the market is very low and that this must be improved. This is certainly true with the market leaders Zotye, Chery and BAIC all offering very simple cars with simple electrics and electronics at list prices of RMB160K to RMB180K before subsidies. The Denza, which based on the old B-Series of Daimler and of better standard, has a list price of RMB370K and found only about 4000 people buying it in 2016. Almost all EVs are sold to governmental fleets (taxi, busses), which normally only buy from local OEMs. Private households play a very small role in the demand.

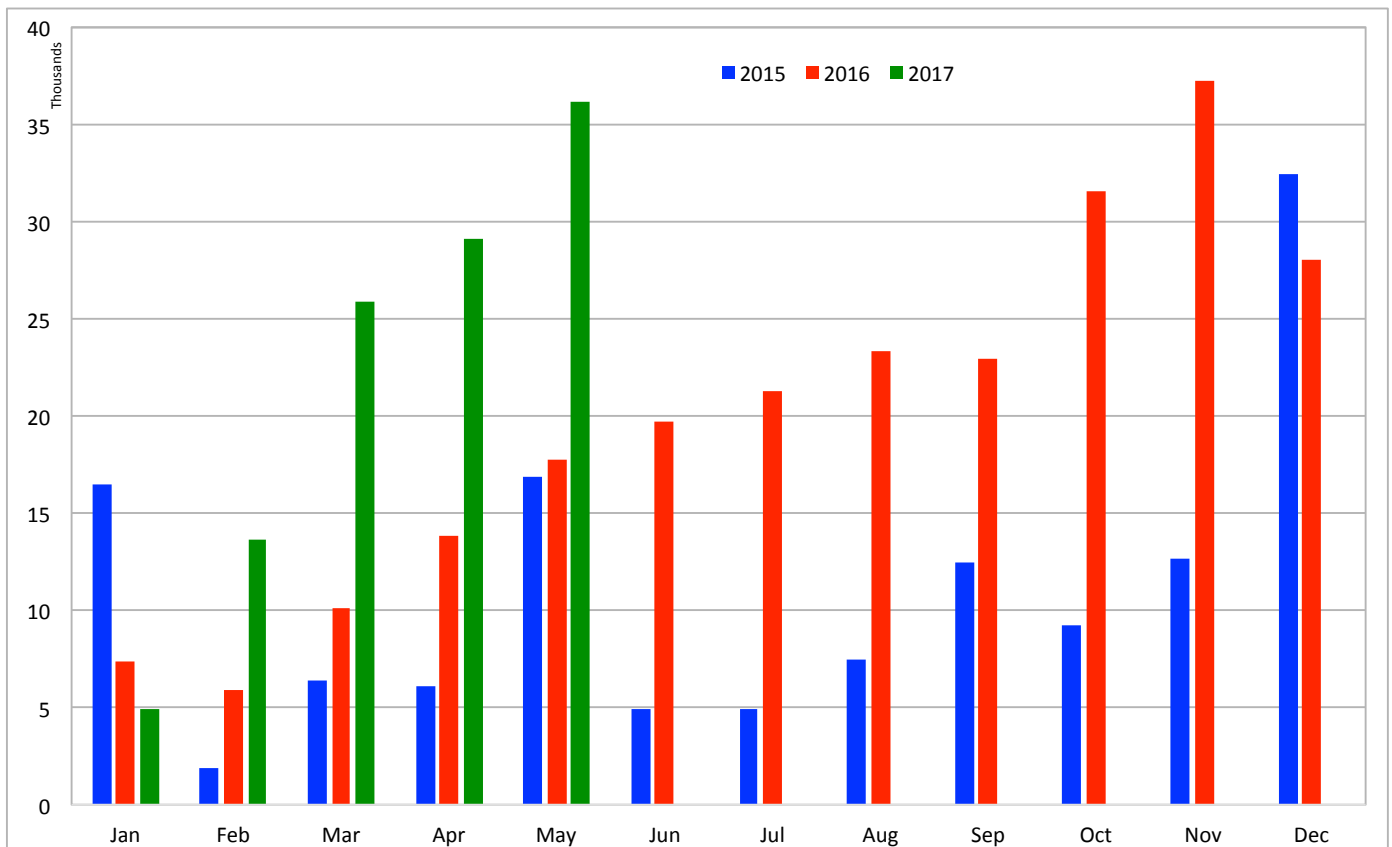


Figure 1: EV passenger cars monthly production

The production of EV passenger cars has been significantly higher each month compared to the same month a year earlier. Exceptions were December 2016 through February 2017. The main reason for that was that the government changes the requirements for the EV production licences. Many EV models hadn't received the updated licence until February 2017. Since March 2017 the electric car sales have been double those from the year before.

3.3 Carbon Credit Scheme and NEV Mandate

There will be a carbon credit scheme, which mandates a minimum share of NEVs. Initially this was proposed by the NDRC in October 2016 and has led to heated debates with international and Chinese OEMs. The final draft, which is likely to become regulation, was released in June 2017 by the MIIT in a document that included most of the proposals from the NDRC.

The main point in the regulation is that in 2018 the carmakers have to reach an NEV quota of 8%, in 2019 of 10% and in 2020 of 12%.

Vehicle Type	Vehicle Points		Remark
Pure EV	$0.012 \times R + 0.8$		(1) R is the comprehensive conditions driving range under pure electric mode, the unit is kilometers. (2) The upper limit of the standard model is 5 points. (3) vehicle model calculation results by rounding principle to retain two decimal places.
Plug-in Hybrid	2		
Fuel cell EV	$250 \leq R < 350$	$R \geq 350$	
	4	5	

Figure 15: Super credits for the NEV mandate

There are super credits for NEVs, which differ by kind of NEV. Plug-in hybrids will be counted 2 times and fuel cell vehicles 4 or 5 times based on the range. EVs will be counted up to 6 times based on the range. There is a formula, which means that EVs with a range over 350 km will be counted 5 times. Provided the EV is also highly efficient, which is measured in another calculation, it gets even 6 credits. On the other side very inefficient EVs get their credits halved. Existing cars would get the following credits:

...

5 Forecast NEVs

We believe that pure EVs will not be the most important part of NEVs in China and will level out at about xxK, especially after the end of subsidies in 2020. That year is also the beginning of CAFC standard with a maximum of 5L/100km. As of 2025, this is likely to be only 4L/100km. This level can only be reached with electrification of the powertrain. We don't believe that there will be a major breakthrough in the battery technology, so that the range anxiety will remain except for very expensive cars like the Tesla Model S or similar. Therefore we believe that the plug-in hybrids will be much more important than pure EVs.

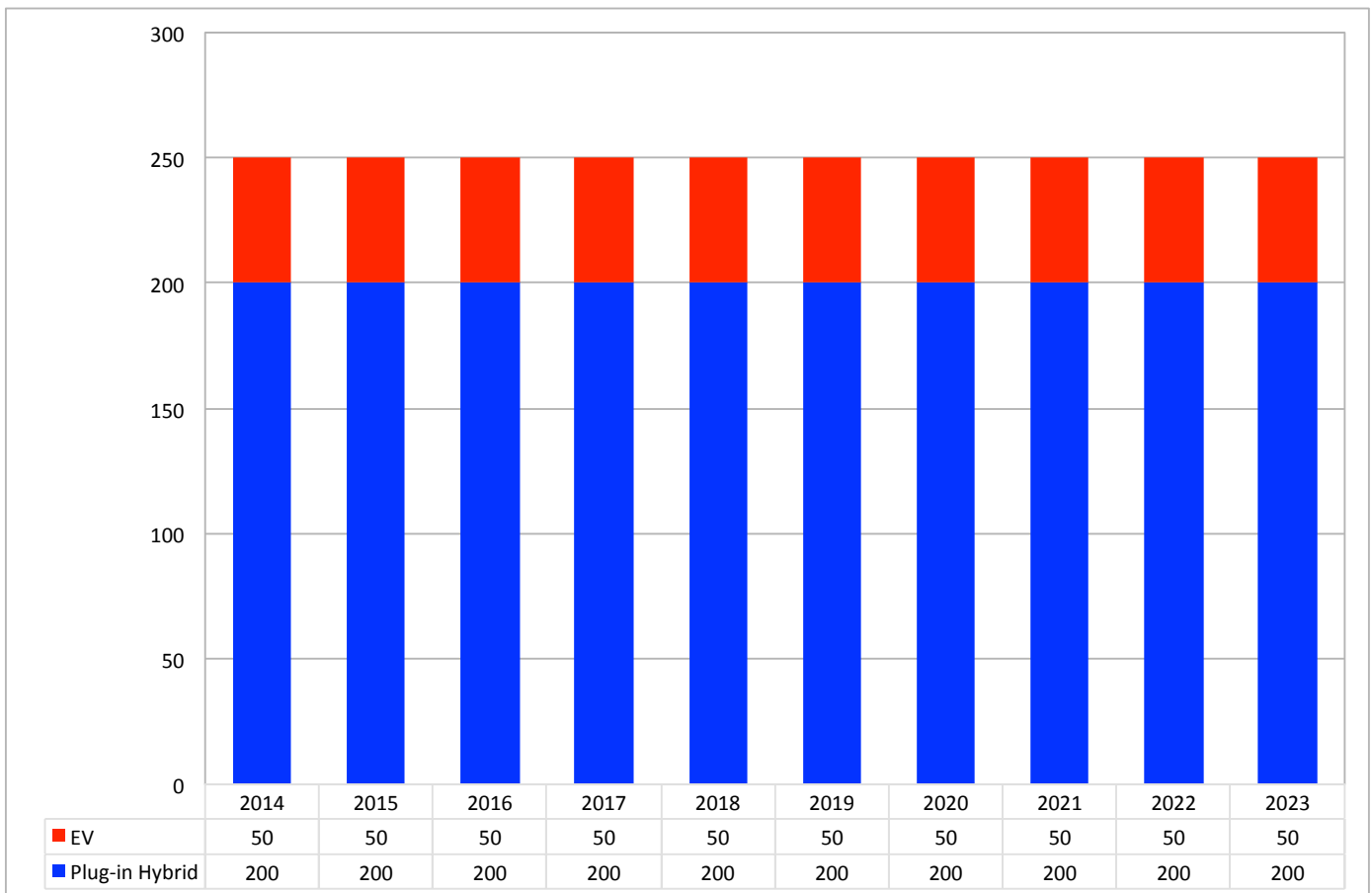


Figure 26: Forecast EV and Plug-In Hybrid production China (Sample Version – not forecast numbers)

We forecast the number of passenger car EVs to increase from xxx units in 2016 to about xx units from 2017 to 2020 to then drop to about xxx units . In our projection the number of plug-in hybrids will increase from xx units in 2016 to about xx units in 2023.

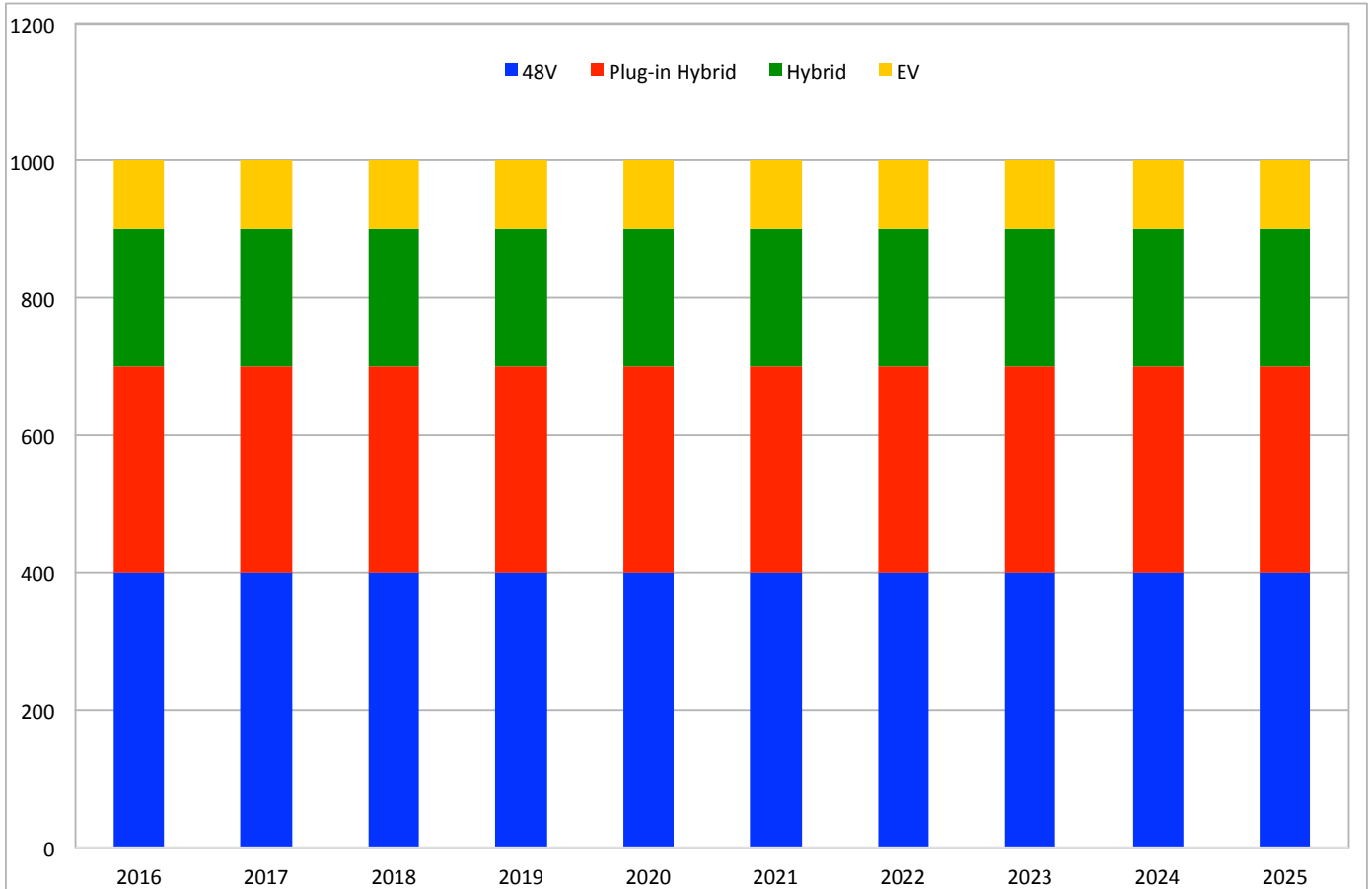


Figure 27: Electrification by mode until 2025 (Sample Version – not forecast numbers)

48V will become one of the most important ways of decreasing the fuel consumption and we forecast that by 2025 more than xx cars made in China will have 48V mild hybrids. At this point we see few Chinese OEMs going down this road until then and most 48V cars will be from premium brands.

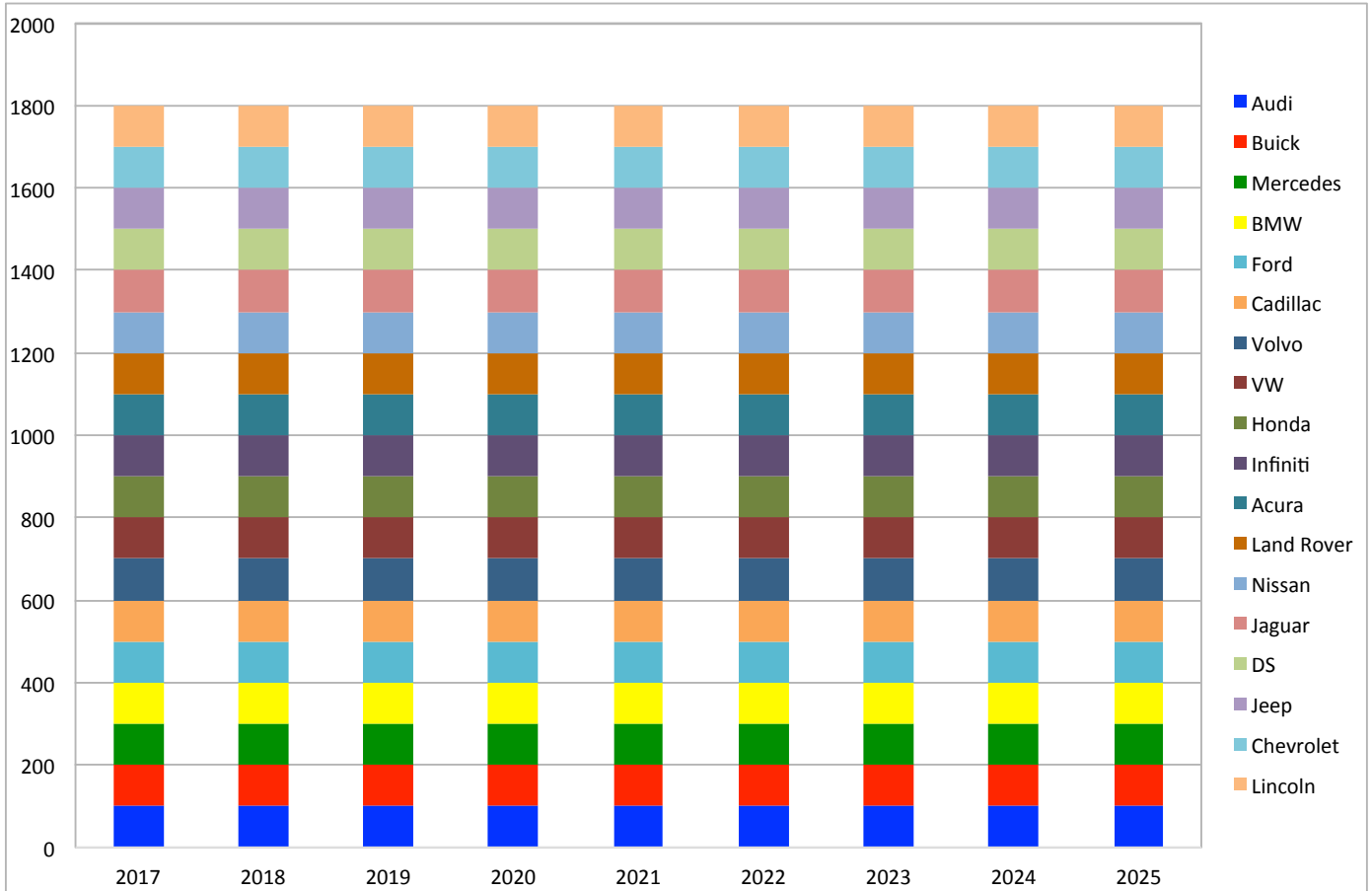


Figure 28: Forecast for 48V mild hybrid equipped card by brand in China (Sample Version – not forecast numbers)