



China NEV Development

China Automotive Technology & Research Center

2015. 04

Industry status

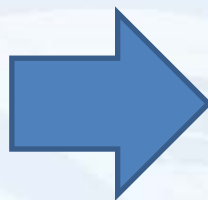
- Overview
- Key parts
- Demonstration

Development trend

- Policy
- Technology
- Market

1. NEV models in Bulletin of Vehicle Manufacturers and Products

“Recommended Catalogue
of Energy Saving and
New Energy Vehicle
Demonstration Project”
First batch



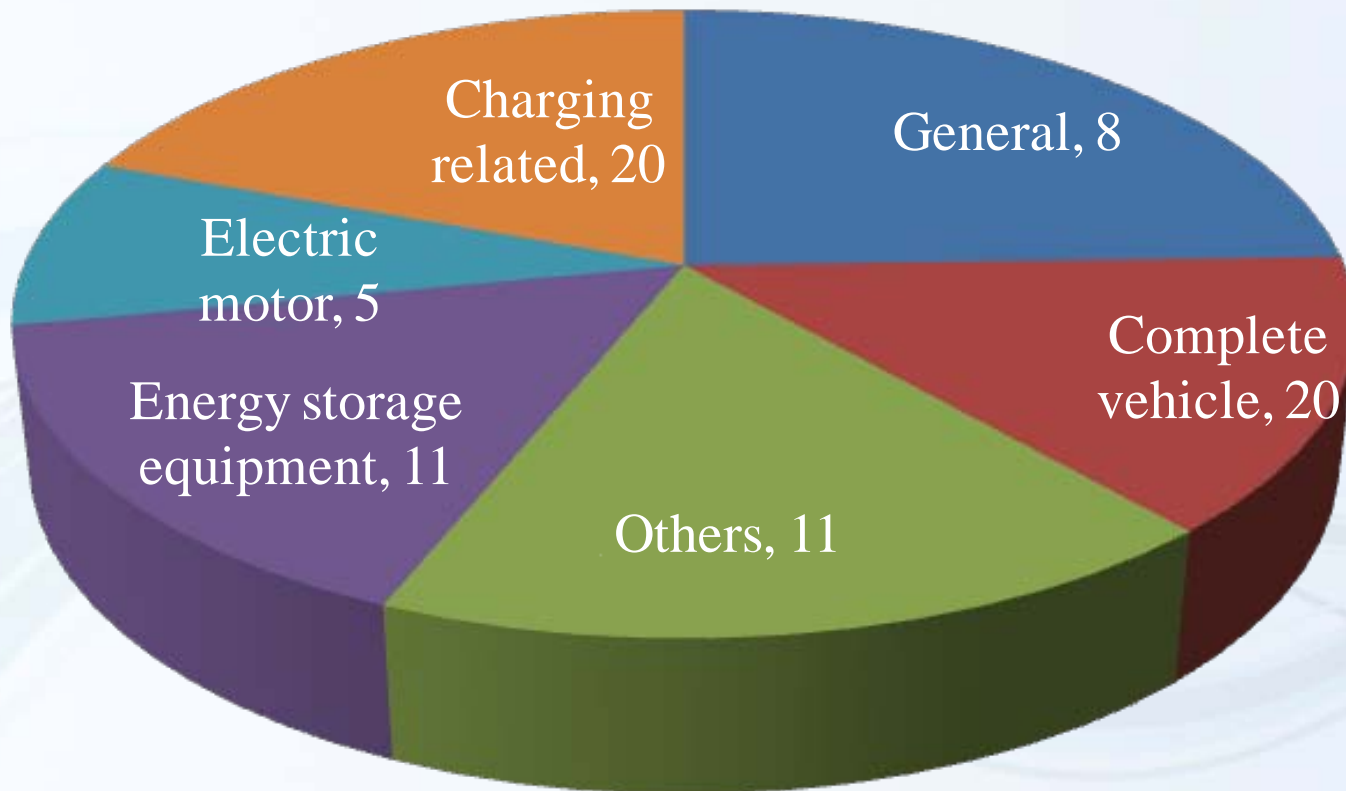
By end of 2014, **1,253** new energy vehicle models in the “Bulletin” (including 872 models of battery electric vehicles, 369 models of plug-in hybrid electric vehicles and 12 models of fuel cell electric vehicles), totally manufactured 119,502 units of new energy vehicle.

8/2009

12/2014

2. Standard system

By end of 2014, 75 standards have been formulated.



1. Power battery

Compared with that in 2003 (150Ah Li-Mn Battery, energy density of 89wh/kg) :

- Energy density of lithium battery rose by above 50% (50Ah LiFePO₄ battery, energy density of 137wh/kg)
- Cost reduced by 50%, the price of battery system reduced to 3 Yuan/Wh or less
- Quality guarantee period reaches 5 years or 100,000 km

Materials progress:

- Cathode and anode materials technology in world front rank
- high capacity, Nano trend

Large scale production:

- Automation, green technology

System integration:

- Intelligent, modularity

2. Electric motor

2001年

Start-stop
ISG
Driving motor



2008年

In scale demonstration
APU e-motor
HEV system
High power density e-
motor system



2011年

scale industrialization
Integration of e-motor and
deceleration system
Various power assembly system
FCEV in wheel motor



- Independent intellectual property rights of tests, industrialization certification and patents enhanced significantly
- Mass production of e-motor system (permanent magnet and induction motor)
- E-motor system meet domestic NEV needs, some manufacturers export products to the U.S and Europe

1. Scope



- Totaling 88 cities listed as new energy vehicle demonstration and promotion cities, focusing on regions under heavier task of controlling air pollutants, e.g. Beijing, Tianjin, Hebei, Yangtze River Delta and Pearl River Delta;
- accumulated 100,000 units of NEVs in demo cities

2. Charging infrastructure

By January 2015, 723 charging/battery replacing stations, 28,000 charging pillars around China

Charging infrastructure in some cities



City	Station	Pillar	City	Station	Pillar
Shenzhen	82	4100	Huhehaote	5	27
Hangzhou	74	620	Wuhan	4	167
Shanghai	24	1770	Guangzhou	3	48
Chengdu	23	880	Hebei	3	100
Chongqing	12	200	Changzhutan	3	236
Dalian	10	275	Qingdao	3	
Hefei	8	2000	Changchun	2	
Xinxiang	8	35	Xiangyang	2	30
Beijing	77	2995	Changzhou	2	110
Tianjin	7	471	Lanzhou	1	82
Taiyuan	7	300	Wuhu	1	461
Fujian	7	381	Yancheng	1	
Shenyang	6	10	Nantong	1	
Jinan	5		Rongcheng	1	7
Xi'an	5	60	Kunming	1	150
Linyi	5	150	Zhengzhou	1	500

Industry status

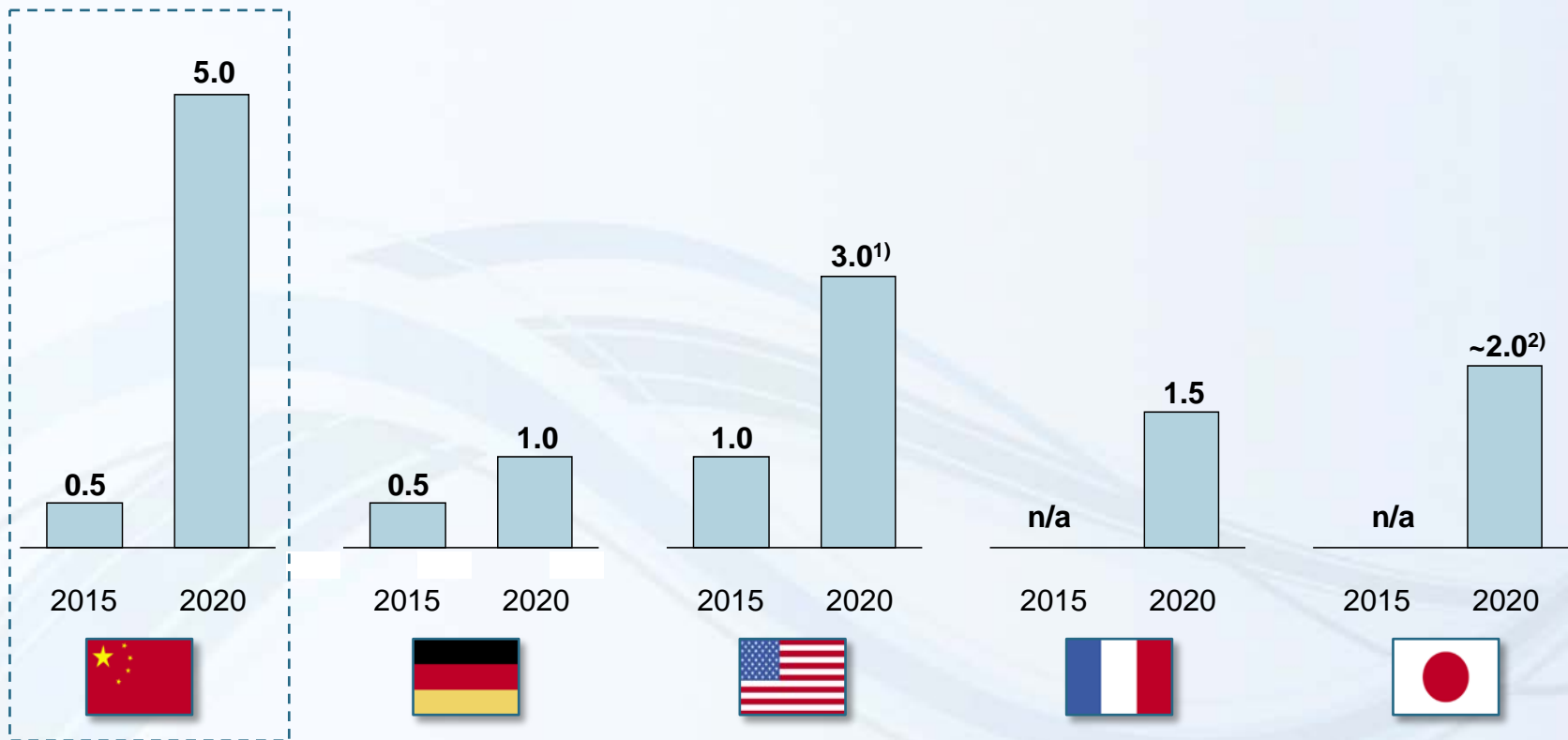
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1. Developing plan

Development goal of EV/PHEV of different countries (1 million)



1.Developing plan

2020 plan (in formulation) :

Charging/battery replacing station **12,000**;

Charging pillar **4.5 million.**



2. Incentive policies

NEV related incentive policies issued continuously in China

Sept. 2013, “Notice of further implementing NEV promotion and application projects”, clarify the NEV promotion implementing and subsidy providing methods.

July 2014, State Council “Advices on accelerating NEV promotion ”points out “market leading and government supporting combined together to create friendly environment for NEV industry development

July 2014, NDRC “Notice of EV charging electricity pricing policies” clarifies supporting electricity pricing policies and government guide service fee administration policy

November 2014, “Notice of providing awarding subsidy for NEV charging infrastructure”, central finance arranges funds to provide award for construction of charging facilities in new energy vehicle promotion cities or cluster of cities.

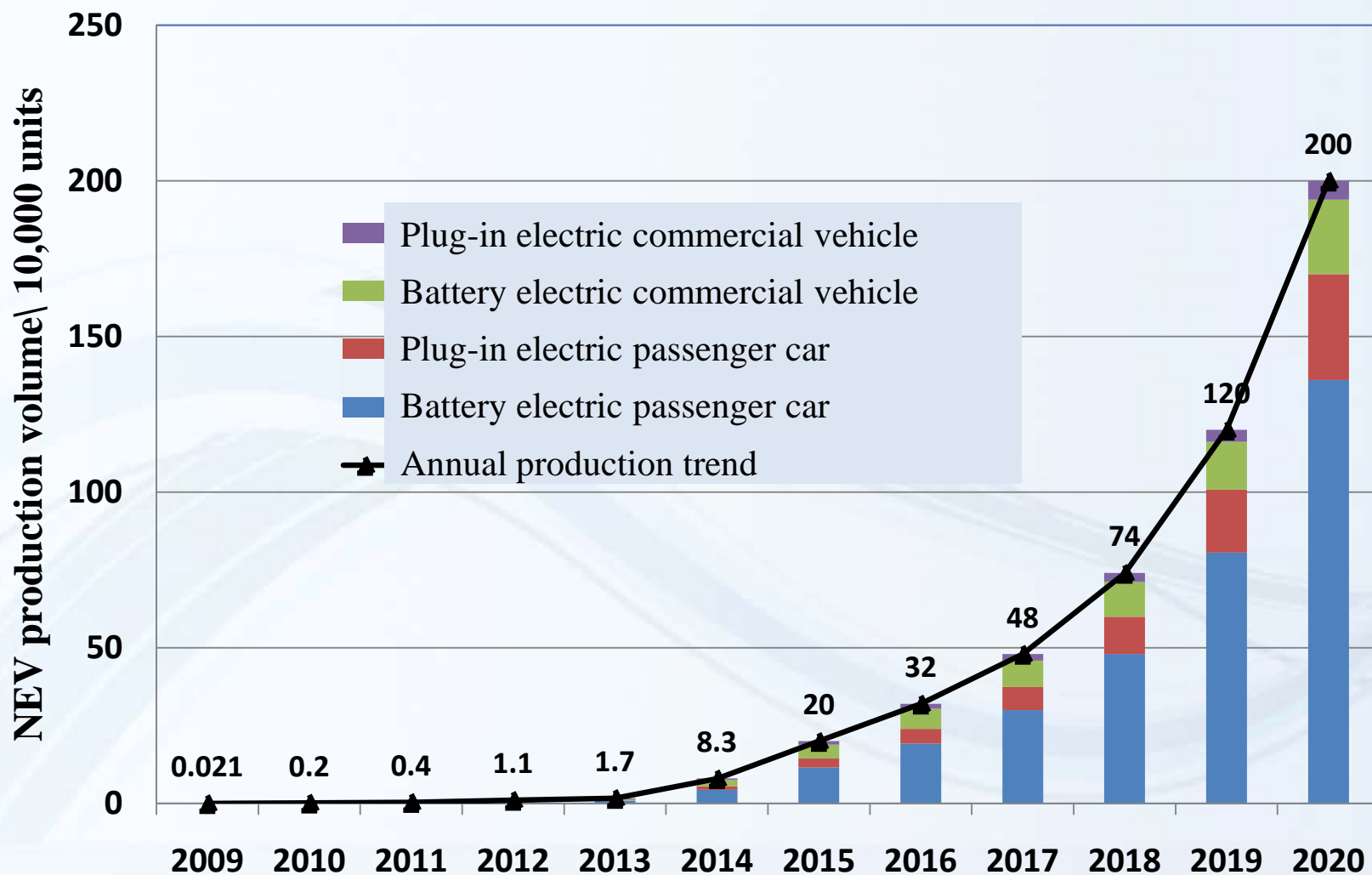
1) Guiding principles:

- “Battery electric drive” transition strategy ;
- Improve EV technical platform, support EV whole industrial chain development;
- Next generation technology R&D in advance.

2) Overall goal:

By 2020, establish complete EV technology system and industrial chain, realize industrialization of various types of EVs, promote NEV strategic rising industry, enter the fast growth phase.

2009-2020 China NEV production analysis



Conclusion

- **China government pays much attention on NEV industry development, and has formulated complete supporting policies system ;**
- **NEV R&D are conducted according to “Battery electric drive” transition strategy ;**
- **NEV market is near the fast developing phase.**



Thank you!

