NEW ENERGY VEHICLES INDUSTRY IN CHINA: DEVELOPMENTS AND CHALLENGES

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Executive Summary

1. China has developed its New Energy Vehicles (NEVs) industry since 2009, an initiative which has gained further impetus through the "Made in China 2025" plan in 2015.

2. The governmental boost was triggered by the concerns of energy security, the awareness of environmental protection and the need for a new growth engine for long-term economic growth.

3. Chinese NEVs comprise battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), fuel cell vehicles (FCVs) and other unconventional alternative fuel vehicles.

4. NEVs are well-developed in automobile manufacturing countries, but the automobile market share of NEVs in most countries, including China, is below 1%, indicating the challenges faced in penetrating the automobile market.

5. The high financial burden, inconvenience of use and anxiety about technical incompetency on the demand side, and the high battery cost and structure of domestic market on the supply side are factors for the laggard performance of Chinese NEVs development.

6. The central government is apparently aware of the impact of a shortage of power charging infrastructure on the growth of NEVs when it recently issued a new "Guideline on the Construction of Electric Vehicles' Power Charging Infrastructure".

7. Nevertheless, government policies still lack recurring incentives and failed in inducing technology transfer and in introducing varied policies to cater for the particular needs of local cities.

8. While the Chinese central government concentrates on one-time financial policies, local authorities have gradually introduced some recurring non-financial initiatives which worked in European countries.

9. Core technologies developed come from China’s research and development and external technology cooperation. To attract the proliferation of NEVs technology from foreign companies, China would do more in protecting intellectual property.

10. The dominant role played by the Chinese governments in setting the direction and scope of NEVs development may limit its market potential.

11. The concept of smart manufacturing has been highlighted in the “Made in China 2025” plan. The development of the NEVs industry would be stimulated by the cost reduction of smart processing and the establishment of an intelligent network.