

Enterprises Accelerating Layout, and Frequent Occurrence of Thousand Vehicles Level Large Orders

Heavy-duty Truck Industry Competing for Battery Swap New Track

By Wang Huixin

With the frequent occurrence of thousand vehicles level large orders and dozens of auto enterprises entry, the battery-swap heavy-duty trucks have currently become one of the hottest keywords in the truck field. In the past two years, the rapid development of the battery-swap heavy-duty truck has paved the way of electric energy replacement for heavy-duty trucks, the main mobile source of air pollutants, and also found a new development direction for electric vehicles in terms of technology and business model. Under the goal of "peak carbon dioxide emissions and carbon neutrality", how to promote the application of battery-swap heavy-duty trucks is worth the attention and exploration of the whole industry.

#### Accelerating Promotion, Auto enterprises Aiming at the "Short Haulage" Market

Recently, the order delivery information of the battery-swap heavy-duty trucks around the country has spammed the reporters circle of friends, and many people in the industry have left messages saying good. Why is the battery-swap mode so attractive in the heavy-duty trucks market with the annual sales of more than one million vehicles?

For current three technical routes of new energy heavy-duty trucks - hydrogen energy truck, pure electric truck and plug-in hybrid truck, their promotion and application process is slow due to various reasons, such as impact on transportation efficiency and limited endurance mileage. The battery-swap mode provides a new path for new energy heavy-duty trucks.

"Compared with the conventional electric heavy-duty trucks, the battery-swap heavy-duty trucks have the advantages of fast energy supplement, modularization and strong adaptability to low temperature." Jiang Jianhua, deputy director of SAIC Hongyan Marketing Department, introduced that the current battery-swap heavy-duty truck products on the market generally require only 3-5 minutes for battery swap, solving the problem that the operation efficiency of conventional electric heavy-duty trucks is affected by the long charging time. Furthermore, through flexible power configuration, some auto enterprises can provide modular charging and battery-swap solution ranging from 80km, 160km and 200km, and have passed the high temperature, cold and plateau tests of more than one million kilometers, which can meet the operating requirements of low temperature transportation environment with a minimum temperature of - 30°C.

Furthermore, the major commercial vehicle enterprises have accelerated their layout. SAIC Hongyan, Foton, Hanma Technology, FAW Jiefang and Dongfeng Commercial Vehicle Co., Ltd. have launched a variety of battery-swap heavy-duty trucks. Recently, they have signed contracts and delivered vehicles continuously.

"Judging from the large number of orders for battery-swap heavy-duty trucks recently, the delivery is mainly concentrated in Hebei Province, especially in Tangshan City, an important place for steel production. One important reason is that the current national policy puts forward strict requirements on carbon emissions of steel production enterprises. Many transport enterprises have begun to actively replace with new energy vehicles. The battery-swap heavy-duty trucks meet the requirements of transportation enterprises for high operation efficiency due to fast energy supplement." Pei Guoquan, the product manager of FAW Jiefang Product Management Department, optimistically predicted that the sales volume of battery-swap heavy-duty trucks is expected to reach 8,000 to 10,000 vehicles this year, and the demand mainly focuses on three segment application scenarios of steel, port and coal transportation.

"On the whole, the battery-swap heavy-duty trucks market is in the introduction period of promotion, and auto enterprises are building teams to promote the market, mainly aiming at the "Short Haulage" market. It can be predicted that the competition in this market will be fierce in the future." Wang Yugang, Vice President of Foton Zhilan New Energy, said.

Failed to Launch Standard, Business Model Needing Policy Support

"At present, the power battery specifications, shape and dimensions adopted by the battery-swap station of many user enterprises are different and cannot be used universally." The representatives of some truck enterprises said that the promotion and application of battery-swap heavy-duty trucks shall solve a difficult problem first, that is, inconsistent power battery standards.

Similar to the promotion of the battery-swap mode in the passenger car field, all enterprises in the truck field have their own power battery design standards, advantages and characteristics, and whose standard is used for the unification shall be determined by the product and market share. Therefore, it is not difficult to understand the reasons why the major auto enterprises have accelerated the R&D and promotion of battery-swap heavy-duty trucks since this year. Seizing the market opportunity means the competition for the right to speak of battery-swap heavy-duty trucks standard.

"It is suggested that the competent department of the industry shall quickly promote the implementation of relevant standards, solve the problems of power battery standards and compatibility, and decide whose standards are used ultimately through market drivers under the guidance of policies." XU Tao, director of the New Energy Vehicle Development and Supervision Division of Hainan Provincial Department of Industry and Information Technology, said.

"In addition to the technical reasons, another factor that restricts the promotion of battery-swap heavy-duty trucks is the high cost. The price of some medium and high-end heavy-duty truck bodies with power batteries is about CNY 700,000-800,000, which is

almost twice the price of traditional energy heavy-duty trucks, of which the power batteries account for about half of the cost." Wang Yugang said that the high cost keeps many customers in a wait-and-see attitude.

In this context, the industry is also actively exploring new business models. The new policy of financial subsidies for new energy vehicles issued in April last year clearly supports the development of new business models, such as "Separation of Vehicle and Electricity".

"With the purchase mode of "Separation of Vehicle and Electricity", the user enterprise only needs to pay for the car body without batteries at one time. Based on the transport enterprise with 50 heavy-duty trucks, over three years, the operation cost of the enterprise can be saved by more than 10 million yuan by using the battery-swap heavy-duty trucks compared with fuel heavy-duty trucks, which is very considerable." Jiang Jianhua said.

Pei Guoquan suggested that the country could introduce relevant policies to make the "Separation of Vehicle and Electricity" model more thorough, "For example, when the vehicles are sold, the battery and chassis shall be invoiced separately, and the purchasing enterprise can register the license plate based on the chassis invoice, which can greatly reduce the initial purchase cost of the enterprise and improve their purchase enthusiasm."

#### □ Afterword

Since the development of electric vehicles in China, the debate on the technical development routes has never stopped. From hybrid electric vehicles, pure electric vehicles to hydrogen energy vehicles, they have gone through a relatively long process of promotion and gradually penetrated into their respective applicable market segments. As a newcomer out of the three routes, whether the battery-swap mode can take root in the heavy-duty truck and even the whole automobile field remains to be tested by the market.