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Electric vehicles – Latest updates from the world’s largest market

As economic activities in Shanghai and other cities are gradually being restored to normal, China’s auto market demand and supply have rebounded. According to insurance data and to CMB International Securities’ estimation, daily sales volume of New Energy Vehicles (NEVs) for the first 19 days of June increased by 124.2% compared to the same period last year, and by 70.9% month-on-month thanks to the easing of pandemic control measures. April was the trough when total retail car sales in China had dropped by -35.4% YoY. That drop was reduced to -16.9% YoY in May, according to data gathered by the China Passenger Car Association.

NEV sales are more resilient than the overall auto sales, NEV retail sales growth dropped from +137.6% YoY in March to +78.4% in April before rebounding to +91.2% in May, and finally, to 124.2% in the first 19 days of June as mentioned above.

The NEV penetration rate in China has trended up as a result and has reached 26% both in May and in early June.

The secular growth of NEV can be explained by both pull and push factors.

The push factor, of course, is the soaring gasoline price, a phenomenon that is not unique to China. On 14th June, the National Development and Reform Commission (NDRC) that is responsible for planning policies announced the 11th price adjustment of 2022 for gasoline and diesel fuel prices. At the start of the year, gasoline price in China was capped at RMB8,800-RMB9,100 per ton, depending on the province. Following the 14th June adjustment, gasoline price is now capped at RMB11,500-RMB11,800 per ton, a 30% increase year-to-date.

At the filling station, Premium Unleaded 95 gasoline price increased by RMB2.26 per litre since the start of the year, reaching a record high of RMB10 per litre (USD1.49 / EUR1.41). It now costs RMB113 more to fill a 50L tank for an ordinary passenger car than it did on 1st January.

Then comes the pull factor: NIO and Li Auto, two leading pure EV car manufacturers that are often described (alongside a third manufacturer- XPeng) as China's equivalent to Tesla, launched new models, on 15th June and 21st June respectively. It was ES7 from NIO (priced at RMB 468,000 - RMB 526,000) and L9 from Li Auto (priced at RMB 460,000). Both are equipped with Nvidia Orin-X chipset that is compatible for L4 ADAS functions and Qualcomm 8155 chipset for smart cockpit functions. The infotainment system of new EV models today is much smarter than that of any traditional internal combustion engine car, featuring large High Definition OLED screens with integrated entertainment apps that can satisfy all the needs of a typical family during a weekend trip. The Li Auto L9 is even equipped with a mini fridge in the middle part of the cockpit that can be used to either cool or heat drinks.

In terms of battery technology used, NIO and Li Auto have adopted two different routes.

NIO ES7 relies exclusively on its battery, with two types of NCM (Nickel Cobalt Manganese) battery packs available, 75KWh and 100KWh, which allows for either 480km or 600km of maximum range.

Li Auto, on the other hand, decided to stick to its extended range technology for its L9 combining a pure EV battery with an additional fuel tank and a compressor that converts fuel into electricity if additional range is needed. The maximum range of the Li Auto L9 is 215km under its pure battery mode, which is then extended to 1315km once the car starts using the fuel tank to produce additional electricity for the engine. This is Li Auto's answer to the "range anxiety" that many drivers of electric cars still have. CATL, the largest battery manufacturer in the world for electric cars, is the battery supplier to both Li Auto and NIO.

Just two days after the launch of L9, CATL announced the technology details of its latest Qilin battery that is using its third generation of cell-to-pack technology (CTP 3.0), and that will allow electric cars to offer a 1000km range, a world's first. The CTP 3.0 battery can use either NCM or LFP (Lithium Ferro Phosphate) as cathode material.

In summary, the landscape for electric vehicles in China is evolving very fast, with new models developed by pure EV car makers hitting the market with features that make them increasingly attractive, be it in terms of autonomy or features being offered. CATL being able to offer a 1000km range battery is also a significant progress. In an [interview](#) given at the Qatar Economic Forum on 21st June, Elon Musk, the CEO of Tesla explicitly

highlighted that he was far more interested in what the Chinese pure play electric car manufacturers were capable of doing than what Volkswagen was up to. He probably knew better than most what he was talking about.

[Outside design of Li Auto L9](#)



[Front cockpit design of Li Auto L9](#)



[Back cockpit design of Li Auto L9](#)



[Nio ES7](#)



[Cockpit of Nio ES7](#)



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