

# CHINA DAILY

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## POLE POSITION

From vehicle manufacturing and sales to battery production, China is racing ahead in the electric car industry

By **ROBERT BLAIN** in Melbourne  
*For China Daily Asia Weekly*

**T**he inexorable shift from fossil fuels to electric power continues to gather pace on the roads. Carmakers and countries alike, it seems, are making new announcements on electric vehicle (EV) initiatives every other week.

Indonesia has just announced generous incentives for companies developing EVs, while Malaysia recently pledged to have 100,000 such cars on the road by 2030.

But does all this talk translate to a significant change on the highways, in car parks, and in consumer preference among drivers?

Renub Research, a market research and consulting

company, reported in May that the EV sector is set to exceed \$100 billion worldwide by 2020.

The groundswell of support for electric cars is steadily increasing, quicker in some countries than others. But nowhere is it being embraced with as much gusto as in China.

In its latest E-mobility Index survey, consultancy Roland Berger tracked the uptake of EVs in seven major countries.

According to the survey: "In terms of the market, China has seen a sharp increase in demand and now moves into second place — behind France — which has a bigger market share despite its considerably lower absolute volumes. In third place comes the United States."

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# ELECTRIC CARS:

## Chinese EV makers well placed as industry becomes more market-driven

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With 352,000 new EV registrations in 2016, electric car sales in China more than doubled those of the previous year.

The growth looks set to continue as the Chinese government forecasts that 800,000 green energy vehicles will be sold this year, made up of both fully electric and hybrid (electric-and-fuel-powered) vehicles.

According to the China Association of Automobile Manufacturers, a total of 507,000 fully electric and hybrid vehicles were sold in the country in 2016. Estimates show that sales of fully electric vehicles registered by the end of this year could reach around 555,000.

While Germany takes the top spot for EV technology in the Roland Berger survey, China takes the lead in industry.

"In industry, China has confirmed its pole position. The reason for this is the continuing rapid growth of the market, more than 90 percent of which is supplied with lithium-ion cells produced locally. This high local share is partly due to the fact that subsidies only apply where there is local value creation," the survey said.

Across the globe, however, the uptake of electric versus fossil fuel-powered vehicles still has a long way to go. Other than China, France is the only country to have more than 1 percent electric car ownership.

Still, China is extremely well placed as the switch to EVs gathers pace.

Simon Moores, managing director of Benchmark Mineral Intelligence, told *China Daily Asia Weekly* that "there is no doubt China is the global hub for the electric vehicle revolution."

"China is producing its own electric vehicles, but the export vehicles are first likely to be Western-branded ones.

"For example, (US electric-car maker) Tesla is looking to make batteries in a new Gigafactory near Shanghai. This is the first step in making Tesla EVs in China for the domestic and export market. VW has similar grand plans," he said, referring to Volkswagen.

For foreign car manufacturers to have power in the EV market, "they need to be in China", Moores added.

BMW has successfully partnered early with Chinese EV makers, he said, but VW's involvement will bring a major boost to the market.

"While (VW) has been slow at entering this EV space, once it gets going the group will shape the future of auto mobility. And for that, it will need to be in China in a big way."

In other developments, Volvo recently announced that all of its new vehicles will be electric or



A man walks past electric cars parked on a sidewalk in Beijing on April 25. Electric car sales in China more than doubled in 2016 over the previous year. AFP

hybrid from 2019. Chinese carmaker Geely is Volvo's parent company.

Moores believes carmakers' plans to go electric are justified and that a recent drop in the oil price will not have a long-term impact on the growing market.

"While the oil price has some short-term incentivizing impact on EVs, the reality is that people are starting to buy them not because they are electric but because they are more desirable, cheaper and better priced.

"This will be the trend going forward, and soon, maybe from 2020 onwards, the oil price will become irrelevant."

China is also very well positioned in the production and export of lithium-ion batteries typically used to power electric cars.

"China already produces the bulk of lithium-ion battery cathode material," said Moores.

"It is locking up the lithium supply chain through Ganfeng Lithium and to a lesser extent Tianqi Lithium. It controls cobalt supply and battery grade refining and produces the vast majority of the world's graphite anode material."

Nearly 70 percent of all new lithium-ion battery capacity being built in new megafactory structures will be based in China, he said.

"These are being constructed by Chinese battery majors like CATL and Lishen, as well as Japanese and Korean joint ventures with Samsung

SDI, LG Chem and Panasonic," said Moores.

In real terms, China's lithium-ion battery capacity in 2016 was 28 gigawatt-hours. By 2020, this is estimated to leap to 174 GWh, according to data from Visual Capitalist, a Canadian digital media brand.

It is likely that Chinese EV makers with robust battery production will be headed for greater success.

"There is no doubt that to date (Chinese manufacturer of rechargeable batteries and automobiles) BYD has led the world in EV production by sheer numbers, however the sway of industrial power will lie with those that produce battery cells and packs and control the lithium-ion battery supply chain," Moores said.

Ron Zheng, a Shanghai-based partner with Roland Berger, said a number of Chinese EV makers can carve up market share among themselves, particularly in the neighborhood electric vehicle (NEV) market. NEVs are compact, electric-powered cars, typically with a top speed of around 40 kilometers per hour — considered ideal for inner-city motoring.

Zheng told *China Daily Asia Weekly* that local Chinese automakers hold a 90 percent market share of China's NEV market, as they "started the NEV business early and already had some of the top-selling models."

"Carmakers SAIC, BYD, BAIC and Geely are the current leaders as they

possess strong technology capabilities, while Chery, JAC, Zotye, Changan, GAC are also showing great potential," Zheng said.

"The competitive landscape will change again with new entrants such as NextEV launching their products after 2018. These fancy-looking and fully connected cars will attract customers with good buying power."

Zheng added that by 2020, market share will be a mix of traditional players (49 percent), joint ventures (37 percent), new entrants (10 percent), and with imports (dominated by Tesla) accounting for around 4 percent.

Tesla sales on the Chinese mainland are proportionally smaller than in Hong Kong. According to Bloomberg, 7 percent of all new cars sold in Hong Kong in 2016 were Teslas — boosted by a waiver of the first registration tax for e-cars, representing a saving of \$56,000.

However, new legislation means this tax can no longer be fully waived, which is likely to greatly reduce Tesla sales in the city.

Environmental concerns aside, overall cost is also a key factor in China.

"Consumers have a very complex buying decision-making process," said Zheng. "They will go through comparing the NEV and internal combustion engine vehicles on purchasing cost, which is decided by the NEV price, subsidy, purchasing tax discount and license plate fees in

some cities, such as Shanghai.

"In addition, total cost of ownership is a vital factor, which is decided by the price gap between petrol and electricity, maintenance cost and residual value."

He added that driver satisfaction is also important, and this will be improved by better range on a single charge, and wider coverage with battery-charging infrastructure.

Zheng added that government policy also has an impact on the desirability of EVs in China.

"Incentives are very important for the industry to boost at the beginning, but subsidies are unsustainable due to government budget control and the intention of developing local original equipment manufacturers' capabilities."

Such a shift of the industry from government-driven to market-driven is inevitable, he said.

Moving up in scale, electric-powered public buses are also likely to become the norm, and China is forging ahead.

Moores from Benchmark Mineral Intelligence said that China has considerable focus in the often "overlooked" electric bus sector.

He pointed to China-based battery manufacturer CATL, which plans to expand its cell capacity from 8 GWh to 100 GWh by 2020 to meet expected demand.

"The numbers are staggering. But that shows the (increase) needed to supply electric vehicles and buses."

# Geely's EV goal picks up speed

Chinese carmaker's Volvo unit takes bold initiative with plans to let go of traditional engines and fully embrace electric vehicles

By **ROBERT BLAIN** in Melbourne  
For *China Daily Asia Weekly*

**C**hina's Geely has been the quiet achiever in the electric vehicle (EV) market.

While building domestic market share in the EV segment, the automaker headquartered in Hangzhou, East China's Zhejiang province, has also been making inroads globally.

Back in 2012, Geely bought the financially strapped London Taxi Company — manufacturer of the English capital's iconic black cabs. That company was recently relaunched as the London Electric Vehicle Co.

But it was Geely's 2010 purchase of renowned Swedish carmaker Volvo that put it firmly on the global automotive map. Their successful pairing has just pulled off quite a coup. With Volvo's announcement last month that all of its cars produced from 2019 will be electric — or at the very least hybrid — Geely has upped the ante in the EV stakes.

The question now is whether Geely's all-electric initiative with the iconic Swedish brand will enable it to leapfrog rival European automakers as momentum for electric cars continues to build. At the very least, it paves the way to making internal-combustion-engine Volvos a thing of the past.

Even so, there are concerns the switch by Volvo Cars to electric-hybrid vehicles by 2019 may be coming too early, before there are sufficient battery-charging stations. However, the two carmakers are confident the time is right.

"This is about the customer," said Hakan Samuelsson, president and CEO of Volvo Cars, in a company statement. "People increasingly demand electrified cars and we want to respond to our customers' current and future needs."

This planned collaboration with Geely will strengthen Volvo's ability to develop next-generation electrified cars, Samuelsson said.

According to Jose Pontes from website EV Obsession, it is not "folly" to go all-electric now, but rather, it is "where the market is going."

He told *China Daily Asia Weekly*: "So the question is not if, but when — and the prize of taking the chance of being a pioneer is having the better part of the market. Because Volvo has taken the chance of electrifying its lineup, it makes sense to create scale and expand it through the other brands, including the Geely brand."

In partnership with Geely, Volvo Cars will unveil a range of electric car models, including fully electric cars and plug-in hybrids. In all, Volvo will launch five fully electric vehicles between 2019 and 2021.



The Emgrand electric car, produced by Geely, featured at an auto show in Shanghai on April 22, 2015. The Emgrand has been widely praised by electric-car enthusiasts.

ZHOU JUNXIANG / IMAGINECHINA

"The Geely group is looking more and more like the Volkswagen Group, with several brands in different segments of the market, so it would make sense to copy the VW tech-expansion strategy into the Geely group," said Pontes.

He said that Geely can start by launching state-of-the-art technology in its premium brands — Volvo and Lotus — and then spread it "a couple of years later into the lesser brands". He added that this creates scale and makes the technology cheaper to build.

Geely announced in May that it was acquiring a controlling stake in Lotus, a British maker of sports cars, from Malaysian automaker Proton.

The Geely-Volvo EV move will be run out of China with a subsidiary at Volvo's base in Gothenburg, Sweden.

Li Shufu, founder and chairman of Geely, said in a statement: "We will unlock significant benefits across our portfolio by sharing both technologies and next-generation vehicle architectures."

Volvo's Samuelsson said that the announcement marks the end of the solely combustion engine-powered car. "Volvo Cars has stated that it plans to have sold a total of 1 million electrified cars by 2025. When we said it, we meant it. This is how we are going to do it," he said.

Industry consensus suggests the timing of the ambitious EV initiative appears to be right.

"I think Volvo and Geely's recent

announcement was a bold statement and has captured the global tone of where we now are with electric vehicles," said Simon Moores, managing director of Benchmark Mineral Intelligence, an online publishing and consultancy business.

"Automakers that are smaller in size have to take drastic action in the face of electrification. Those caught in the middle — mid-sized companies producing mid-price vehicles — risk going out of business. Volvo sees this and has acted first. That's sensible as the industry is only heading in one direction — electric," he said.

Geely has been establishing its credentials slowly but surely in China's EV market.

Chinese automotive heavyweights BYD and BAIC have garnered significant attention with their electric car offerings, notably the e6 and EU260 models respectively.

But Geely has also performed respectably in this space.

Fred Lambert, editor-in-chief at EV website Electrek, described Geely's Emgrand EV as "probably the most polished all-electric vehicle in the Chinese EV segment".

"The decent sales performance should encourage Geely to move forward with its EV programs, and the company's work with Volvo to develop a new EV platform architecture will serve as the base for those vehicle programs," he said.

Geely delivered 12,000 Emgrand units in 2016, Lambert added.

EV Obsession's Ponte named Lynk & Co as the real gem in Geely's stable. The automotive brand launched last year and is a subsidiary of Geely.

"On top of a brilliant branding strategy, placing (Lynk & Co) as an irreverent and 'young' make, the Volvo-technology-assurance stamp of quality could make people look at it more as Volvo's younger, hipper sister, rather than as just another Chinese brand.

"Even in Western markets, where Volvo is in need of a cheaper brand to help it win scale, Lynk & Co has a real chance of success, because of the Volvo connection, which would be reinforced if the European units were made alongside the Volvo ones, in Europe," Ponte said.

But Geely is also keeping its eye on the prize at home.

Electrek reported that in 2016 alone, China doubled its fleet of electric cars to over 600,000 — more than the US and all of Europe combined.

"Plug-in hybrids are still dominating the Chinese electric car market. But China's EV market is different for its variety of EV models available. Over 60 models are available, 13 of which sold over 10,000 units in 2016," said Electrek's Lambert.

Generous government EV subsidies — up to 100,000 yuan (\$15,000) for plug-in hybrid and all-electric cars — have undoubtedly helped drive the EV market. But with a 20 percent cut in green vehicle subsidies this year, competitors in the

industry must stay on their toes to ensure they cash in on the acceleration of EV ownership.

With the Chinese government poised to allow foreign EV companies to manufacture in China without being part of a joint venture, the competition is expected to hot up further.

But Geely is well placed to secure its share of the EV market as it continues to pursue its electric car interests — both locally and globally through its partnership with Volvo.

Interestingly, the presence of international EVs could actually be a boost to Chinese electric automakers.

Tesla, based in California's Silicon Valley and listed on New York's Nasdaq stock exchange, has plans for localized production in China. It is the highest-valued carmaker in the United States with a market capitalization of more than \$60 billion.

"I think the market is going to be so big that competition like Tesla helps the overall push to EVs. Tesla's popularity and availability in China will help all domestic EV manufacturers," said Moores of Benchmark Mineral Intelligence.

Li of Geely, meanwhile, remains assured that his company's EV tie-in with the Swedish automaker will stand both companies in good stead.

"I am confident these synergies can be achieved while preserving the separate identities and strategic autonomy of our different automotive brands," he said.