Bangui electric vehicles evs

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From generous government subsidies to support for lithium batteries, here are the keys to understanding how China managed to build a world-leading industry in electric vehicles.

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Before most people could realize the extent of what was happening, China became a world leader in making and buying EVs. And the momentum hasn"t slowed: In just the past two years, the number of EVs sold annually in the country grew from 1.3 million to a whopping 6.8 million, making 2022 the eighth consecutive year in which China was the world"s largest market for EVs. For comparison, the US only sold about 800,000 EVs in 2022.

The industry is growing at a speed that has surprised even the most experienced observers: "The forecasts are always too low," says Tu Le, managing director of Sino Auto Insights, a business consulting firm that specializes in transportation. This dominance in the EV sector has not only given China"s auto industry sustained growth during the pandemic but boosted China in its quest to become one of the world"s leaders in climate policy.

How exactly did China manage to pull this off? Several experts tell MIT Technology Review that the government has long played an important role--propping up both the supply of EVs and the demand for them. As a result of generous government subsidies, tax breaks, procurement contracts, and other policy incentives, a slew of homegrown EV brands have emerged and continued to optimize new technologies so they can meet the real-life needs of Chinese consumers. This in turn has cultivated a large group of young car buyers.

But the story of how the sector got here is about more than just Chinese state policy; it also includes Tesla, Chinese battery tech researchers, and consumers across the rest of Asia.

In the early 2000s, before it fully ventured into the field of EVs, China"s car industry was in an awkward position. It was a powerhouse in manufacturing traditional internal-combustion cars, but there were no domestic brands that could one day rival the foreign makers dominating this market.

"They realized ... that they would never overtake the US, German, and Japanese legacy automakers on internal-combustion engine innovation," says Tu. And research on hybrid vehicles, whose batteries in the early years served a secondary role relative to the gas engine, was already being led by countries like Japan, meaning China also couldn"t really compete there either.

The risks were extremely high; at this point, EVs were only niche experiments made by brands like General

Motors or Toyota, which usually discontinued them after just a few years. But the potential reward was a big one: an edge for China in what could be a significant slice of the auto industry.

Meanwhile, countries that excelled in producing gas or hybrid cars had less incentive to pursue new types of vehicles. With hybrids, for instance, "[Japan] was already standing at the peak, so it failed to see why it needed to electrify [the auto industry]: I can already produce cars that are 40% more energy efficient than yours. It will take a long time for you to even catch up with me," says He Hui, senior policy analyst and China regional co-lead at the International Council on Clean Transportation (ICCT), a nonprofit think tank.

Plus, for China, EVs also had the potential to solve several other major problems, like curbing its severe air pollution, reducing its reliance on imported oil, and helping to rebuild the economy after the 2008 financial crisis. It seemed like a win-win for Beijing.

China already had some structural advantages in place. While EV manufacturing involves a different technology, it still requires the cooperation of the existing auto supply chain, and China had a relatively good one. The manufacturing capabilities and cheap commodities that sustained its gas-car factories could also be shifted to support a nascent EV industry.