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Trivium China

Markets Note

Finding NEVerland: investment gaps hamper China's rural NEV consumption

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Since late last year, Beijing has repeatedly promised to put consumption at the heart of China's economic recovery.

- Beyond uncoordinated, piecemeal initiatives, though, there has been very little active policy to achieve this.

However, there's one area of consumption where Beijing has a very clear vision of how it wants to boost spending: new energy vehicles (NEVs).

- Specifically, it wants to increase purchases of NEVs in rural areas by expanding supporting infrastructure.

In this note, we explore what Beijing is trying to achieve – and whether it will work.

The big picture

China's world-leading NEV market is valued at nearly RMB 1 trillion.

- Annual sales quintupled from 1.367 million in 2020, representing 5.4% of total auto sales, to 6.887 million in 2022, 29.2% of auto sales.
- Domestic analysts estimate annual sales could exceed 10 million units by 2025.

But to get there, the industry will have to overcome its Achilles heel: The rural market.

NEV sales – and the associated charging infrastructure – are concentrated in urban areas, leaving over 500 million potential rural consumers largely untapped.

- That's more than the entire population of the EU.

Private NEV and charging companies may not be interested in entering the rural market, but Beijing has different ideas.

- As Premier Li Qiang has made abundantly clear in recent weeks, expanding NEV sales in rural areas is an essential part of China's macroeconomic recovery – supporting both domestic industrial production and, most critically, overall consumption.

As a result, expanding the rural NEV market has become a key focus of macroeconomic planning.

- And as an added bonus, increasing penetration in rural areas would significantly enhance Beijing's net zero ambitions. What's not to love?

The bottom line: Li is depending on rural NEV market growth to bolster consumption of big-ticket items and stimulate national consumption more broadly.

What's holding back the rural market

Widespread, reliable charging infrastructure is a prerequisite for growth in the rural NEV market.

Until last month, Beijing had maintained a laissez-faire stance toward charging infrastructure, without any significant policy support or strategic direction.

- This is in stark contrast to the NEV industry, which received supply-side subsidies, supply chain investments, and support for battery tech.

Private companies have been allowed to dominate the market:

- They account for 86% of installed charging piles
- State-owned enterprises (SOEs) account for 13%
- NEV makers' proprietary charging infrastructure makes up the remainder

With the power of the free market unleashed, charging infrastructure has exploded.

- China has by far the most – and also the most *advanced* – charging infrastructure in the world.
- As of 2022, China had over 3.4 million private charging piles, plus another 1.8 million public charging piles. Its ratio of vehicles to charging piles is now a world-leading 2.5:1.

But that growth has been concentrated in wealthy, urban hubs.

- Higher population densities make charging infrastructure more economically viable; plus, big-city dwellers tend to have more disposable income, supporting urban NEV sales.
- Hence, NEV infrastructure expansion has ended up concentrated in affluent coastal cities – leading to shortages along highways, in rural regions, and in inland and western provinces.
- Meanwhile, lower rates of NEV ownership and lower population densities make charging infrastructure in these areas less economically viable.

That's created a chicken-and-egg problem:

- Rural NEV consumption is hampered by insufficient charging infrastructure...
- ...while private firms aren't building infrastructure because rural NEV ownership is too low.

The bottom line: The private sector isn't interested in tapping the rural market because it's just not (yet) profitable.

- So Beijing either needs to sweeten the investment incentive, or step in directly with publicly funded or SOE investment.

Swing and a miss

Policymakers are finally taking aim at this infrastructure problem, but their plans are woefully inadequate.

Where it all started: At a May 5 State Council executive meeting, Premier Li called for the [expansion of NEV sales](#) in untapped rural markets.

- His instructions aptly singled out NEV charging infrastructure as a key hurdle to overcome.

Since then, central policymakers have leapt to meet his call for action:

- On May 17, the macro planner (NDRC) and energy regulator (NEA) jointly issued an [implementation plan](#).
- On June 19, the State Council [issued guidelines](#) on developing charging infrastructure.

These initiatives largely pass the buck to local governments, with calls for local officials to:

- Support the buildout of charging infrastructure
- Reduce the costs of charging and battery-swapping in rural areas
- Issue local special-purpose bonds and green bonds to finance infrastructure development

Just one problem: Most rural localities have no money.

- A collapse in land sales and an underwhelming economic recovery have hit local-government coffers.
- Many local governments – especially across the poorer, rural provinces – are struggling to service their huge debt burdens, let alone load up on more debt to support rural charging infrastructure.

Despite their fiscal constraints, city and provincial-level governments have heard Li's May 5 call for infrastructure investment loud and clear.

- On May 11, Chongqing's Banan district issued requirements to develop charging infrastructure near public buildings, parks, and tourist attractions.
- On May 17, Inner Mongolia published explicit installation goals for 4th-tier cities and is encouraging charging pile construction in rural areas.
- On May 22 and 29, Guangdong called for investment in provincial charging infrastructure.
- On May 26, Shenyang city in Liaoning called for greater infrastructure development as part of an NEV industry development push.
- On May 30, Shanghai rolled out a number of measures to incentivize investment in charging infrastructure.
- On June 2, Jiangsu published a plan urging financial institutions to support the NEV market's expansion, including via infrastructure development.

But these announcements are light on funding details – and are of questionable relevance to the *rural* part of the rural NEV market development plan.

- Every one of these plans can be fulfilled with investments only in urban areas. Nothing actually changes the calculus for investment in rural areas.

- These plans *might* modestly support NEV purchases in some smaller cities, but it's a stretch to think they'll make any notable changes to investment in the rural market.

Get smart: The free-market profit motive has failed to deliver sufficient charging infrastructure in low-income, sparsely populated rural areas.

- Leaning on cash-strapped local governments won't provide much of a boost either.
- To date, localities' efforts to try to implement Li's guidance reflect their inability to directly stimulate rural NEV consumption or support the infrastructure investments to drive it.

The big question: What should central policymakers do to seriously kickstart rural NEV growth?

A state-owned elephant walks into a room...

Expanding charging infrastructure into rural areas is not an attractive proposition for private charging companies.

SOEs, on the other hand, are well placed to swallow the short-term costs.

First, they already have the technical knowhow: Key SOEs like State Grid and Southern Grid – the country's two power grid operators – have significant experience building charging piles.

- State Grid alone has installed just shy of 10% of China's total public piles.

Second, they've already played a key role in providing unprofitable charging infrastructure along highways as a public good.

- Utilization rates for highway chargers are really low, while overheads are high.
- The only firms building highway chargers are SOEs – who do so at a loss – and NEV makers like Tesla and Nio – who do it for sake of customer experience.

However, mobilizing SOEs for a big infrastructure push takes time and political will, and Beijing seems reticent to jump the gun.

There are potentially good reasons why Beijing might be holding off:

- The charging pile companies that have powered China's NEV market so far are becoming domestic champions in their own right – pitting them against SOEs could damage their growth and crowd out the private sector.
- Insufficient rural charging isn't the only impediment to rural NEV sales. The NEV market is saturated with cars designed and priced for urbanites; Beijing might be waiting for car makers to bring a product to market which really appeals to rural consumers before they get the SOE wheels turning.

Nonetheless, SOEs are Beijing's best option to support local infrastructure buildouts without resorting to private investment subsidies.

- And if the leadership's top concern is economic recovery, then the pros of greater SOE involvement significantly outweigh the cons.

Get smart: For now, Beijing's approach to rural charging shows no signs of changing.

- In the near term, NEV infrastructure is poised to remain private sector-led – and overwhelmingly urban.
- Infrastructure may get some limited support from a smattering of provincial and/or local governments, but it'll be limited in scope and duration – and based on what we've seen so far, still mostly urban.

The bottom line: Beijing needs to grasp the nettle – and fast.

- Rural NEV consumption will continue to lag significantly behind urban consumption until the central government properly addresses the infrastructure issue.
- Its clear central policymakers will need to take a more hands-on approach, and SOEs are its best bet.
- Until it does so, its rural NEV dream will remain just that.^{1 2 3}

1 BJX: 2023年4月全国电动汽车充换电基础设施运行情况:公共充电桩同比增长52%

2 IN-EN: 新能源汽车下乡,三四线城市及乡镇充电桩建设成为“新蓝海”

3 BJX: 内蒙古:关于印发《推进城镇新能源汽车充电设施建设六条政策措施》的通知

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