



Breaking Chinese Battery Dominance: A Technology Race that Needs Partnership

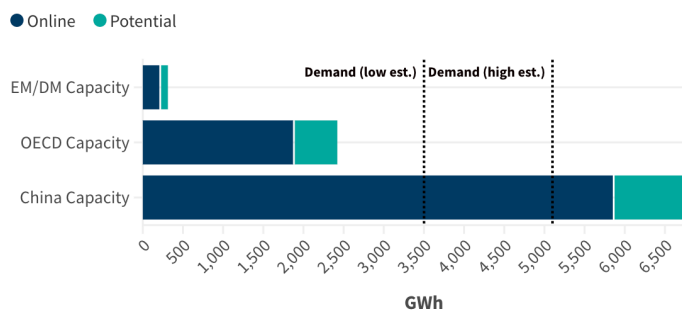
Milo McBride

The Dominance Problem

Batteries are essential technologies for twenty-first-century growth, security, and energy. Lithium-ion batteries are now endemic to electrified mobility, firming of renewable power, data center loads, a suite of consumer electronics, and the frontiers of warfare.

But today, battery technology and supply chains are overwhelmingly dominated by China, and that dynamic is likely to accelerate, with Chinese firms racing ahead to corner the next generation of products and to maintain leverage over supply chains of key battery metals. China's production capacity is expected to triple that of the West by 2030, surpassing the entire global demand.

Figure 1. China's 2030 Battery Capacity Could Exceed Global Demand



Source: Author's analysis based on data from the Clean Investment Monitor, Rhodium Group, McKinsey Center for Future Mobility, and Porsche Consulting.

This analysis offers a pragmatic pathway forward based on technology and market trends to de-risk battery tech through coordination between partner countries.

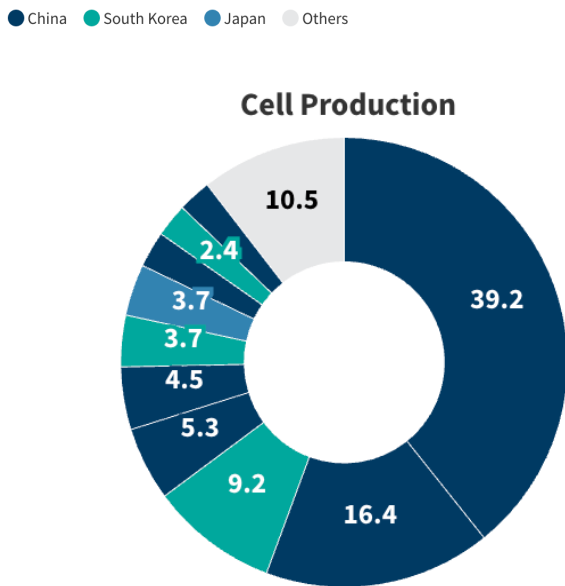
The Solution Framework

Partners outside of China including the United States, the EU, India, Japan, and South Korea should coordinate to pool their market access, support leading battery firms, and encourage innovative start-ups to create opportunities for non-Chinese markets to develop.

This does not mean unilaterally shunning China's battery companies, but it does mean prioritizing their competitors while only granting market access to Chinese firms through joint ventures and in key technologies where alternatives do not exist (like battery anodes and graphite materials).

Korean battery giants and some Japanese firms are still "silver medalists"—second-place producers behind China's gold medal lead—but they are falling increasingly behind Chinese innovation. Japanese and Korean firms primarily produce nickel-cobalt batteries that are now being supplanted by cheaper, Chinese dominated iron-phosphate batteries. The current priority to ensure Korean firms can produce both chemistries at scale and do not fall further behind the Chinese.

Figure 2. Korean Firms Lead Non-Chinese Battery Cell Production in 2025



Source: uthor's analysis based on data from SNE Research.

The United States and the EU are the largest battery markets outside of China and must use that market size to scale emerging battery chemistries. While both the United States and the EU have strong innovation ecosystems, new battery systems will not reach commercial scale without partnerships with Japanese and Korean partners, whether through offtake or joint ventures.

The Tech Portfolio Approach

Governments will need to take a technology portfolio approach—they cannot simply lock-in with incumbent battery chemistries because China's innovation is accelerating.

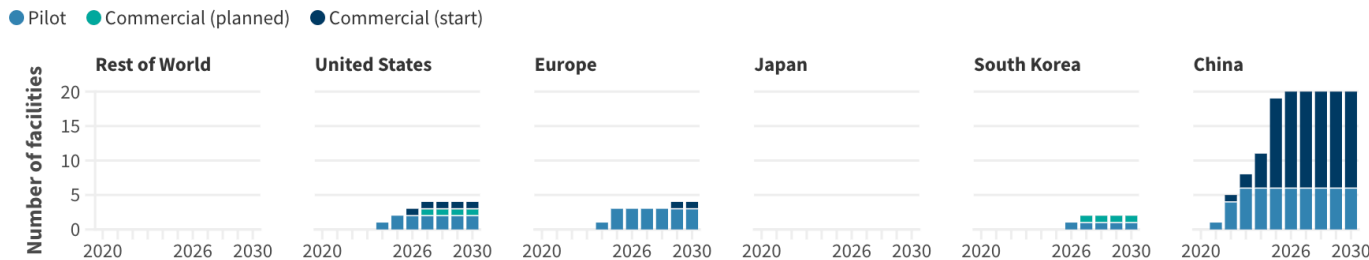
The West is losing the race for critical minerals. Emerging battery chemistries can help break China's chokehold, but innovation policy is urgently needed to scale up these systems. China's primary grip on graphite, the largest per mass metal in the battery, can be abated by deploying high volumes of silicon anodes, which the United States, Europe, and South Korea are all deploying in varying degrees.

Sodium-ion batteries are the most important policy priority because they require negligible critical minerals, can be produced in existing factory lines, and because there are few non-Chinese players developing these systems at scale. Western start-ups and Korean conglomerates should prioritize developing a non-Chinese sodium-ion ecosystem.

The Bottom Line

Despite China's rise as the world's battery superpower, OECD countries and firms still have one foot in the door. Smart policy can secure durable niches with the right partners. The West may not get the gold medal, but it must try for the silver medal.

Figure 3. Sodium-ion Is China's Game to Lose



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