WEP Warwick Evans Publishing

International Journal of Global Economics and Management

ISSN: 3005-9690 (Print), ISSN: 3005-8090 (Online)
Volume 10, Number 9, Year 2026
DOI: https://doi.org/10.62051/ijgem.v10n9.10



Research on Global Site Selection and Layout Strategy of New Energy Enterprises: A Case Study of CATL

Jiao Chen [1, *], Meng Han [2], Xinyao Li [2]

[1] Department of Department of Management Science and Engineering, School of Economics and Management, SouthWest Petrolemn University, Chengdu, China

[2] School of Economics and Management, SouthWest Petrolemn University, Chengdu, China

*Corresponding Author: cj13207328030@163.com

ABSTRACT

Against the backdrop of accelerating global energy transformation, the globalization strategy of new energy enterprises has become a core element for enhancing international competitiveness. This paper takes Contemporary Amperex Technology Co, Limited (CATL) as the research object, comprehensively using case analysis and strategic management theoretical frameworks to deeply explore the strategic logic and practical experience of the company's global site selection and layout. The study finds that CATL has built a production network covering 15 bases with a total capacity exceeding 800 GWh worldwide by constructing a trinity layout model of "resource localization + capacity globalization + technology collaboration". Its site selection strategy systematically integrates multiple factors such as mineral resource endowment, market demand potential, and policy environment adaptability, and achieves risk sharing and benefit sharing through the "joint venture holding" model. Despite facing dual challenges of geopolitics and local compliance, CATL continues to strengthen its ability to integrate the global clean energy industry chain through technology export and zero-carbon factory standards, providing a replicable strategic path for the international development of Chinese new energy enterprises.

KEYWORDS

CATL; globalization layout; Site selection strategy; Power battery; Energy storage system; Localization strategy

1. INTRODUCTION

Driven by global carbon neutrality goals, the low-carbon economy has gradually attracted social attention and has become an important direction for industrial transformation and upgrading in the context of the new normal economy. The new energy industry has become a strategic field that countries around the world are competing to develop [9]. The new energy vehicle industry is an open strategic emerging industry system, mainly composed of engineering technology, infrastructure, consumer habits, policies, culture, and many other social factors. Therefore, to achieve high-quality and sustainable development of the new energy vehicle industry, in addition to strengthening infrastructure construction and key technology research and development, it is also necessary to disseminate development concepts and lead the market. The Chinese government has seized the opportunities of a new round of technological revolution and industrial transformation, accelerating the intelligent and green transformation of the automobile industry, and promoting the leapfrog development of new energy vehicles. Among them, the scale of automobile trade continues to expand. In the past three years, China's automobile exports have successively exceeded the three thresholds

Content from this work may be used under the terms of CC BY-NC 4.0 licence (https://creativecommons.org/licenses/by-nc/4.0/). Published by Warwick Evans Publishing.

of 2 million, 3 million, and 5 million vehicles. In 2023, China became the world's largest automobile exporter for the first time, including 1.443 million new energy vehicle exports [11]. As the world's largest new energy vehicle market and producer, China has cultivated a number of internationally competitive power battery enterprises. Contemporary Amperex Technology Co., Limited (CATL), founded in 2011, is one of the competitive power battery manufacturers, mainly engaged in the research, development, production, and sales of power battery systems and energy storage systems for new energy vehicles. Its core technology is mainly focused on power batteries and energy storage batteries [7]. In June 2018, the company successfully landed on the Growth Enterprise Market (GEM). It has now become one of the power battery suppliers for many well-known domestic and foreign automakers such as Tesla, Mercedes-Benz, and Yutong Bus. With continuous technological innovation and forward-looking global layout, the company has ranked first in the world in power battery installation volume for seven consecutive years. With the acceleration of global energy structure transformation, the demand for power batteries and energy storage systems has shown explosive growth.

Against this industrial background, the global layout of new energy manufacturing enterprises has become an inevitable choice. Chinese auto companies are actively integrating into the global automotive industry chain. As of the end of 2023, Chinese enterprises had set up more than 600 automobile and auto parts manufacturing enterprises in 80 countries and regions. China's hub position in the global production and supply chain has become increasingly prominent. Multinational auto companies have utilized China's advantages in market, technology, and institutional openness to achieve the transformation of “In China, For the World”. As the “heart” of new energy vehicles, the production layout of power batteries is not only related to the security of the enterprise's own supply chain but also directly affects the development process of the new energy vehicle industry in various countries. Chinese power battery enterprises have a high global market share, but internationally renowned new energy vehicle manufacturers still prefer products from Japanese and Korean battery enterprises. Moreover, Japanese and Korean manufacturers have gradually built patent barriers. The main customers of Chinese power battery enterprises are domestic automakers, and their core competitiveness still lags behind foreign manufacturers. Therefore, domestic power battery enterprises urgently need to increase research and development efforts in core technologies to gain strong core competitiveness and then expand into foreign brand markets [18].

As an industry leader, CATL's global site selection and layout strategy has important research value. Based on production and operation management theory and combined with CATL's latest global layout cases, this paper systematically analyzes the internal logic and practical experience of its global layout from four dimensions: resource endowment, market orientation, policy adaptation, and technology output, in order to provide a strategic framework for the international development of Chinese new energy enterprises.

2. CURRENT STATUS OF CATL'S GLOBAL LAYOUT

2.1. Domestic Multi-point Layout System

CATL has built a multi-level, cross-regional production capacity network in China, forming a supply chain system covering major automobile industry clusters. As of July 2025, CATL has established 11 major production bases in China, with a total planned capacity exceeding 600 GWh, demonstrating an astonishing “CATL speed”. In the southeast coastal core area, the Ningde base in Fujian Province, as the world's first lighthouse factory in the lithium battery industry, covers five areas: Hudong, Huxi, Jiaocheng, Fuding, and Base Z, integrating power batteries and energy storage batteries. Among them, the Cheliwan project adopts a reclamation method for construction, with a total investment of 13.5 billion yuan, a planned capacity of 45 GWh, an annual output value of approximately 50 billion yuan after reaching full capacity, and more than 4,000 new jobs, forming a super production base with an

annual capacity exceeding 100 GWh. The Liyang base in Jiangsu Province covers an area of 2,000 mu, with a total investment of over 23.6 billion yuan, and a planned capacity of over 66 GWh. Using AI technology management, workshop energy efficiency is increased by 16%, and unit energy consumption is reduced by 47%. In the central and southwest clean energy area, the Yibin base in Sichuan Province fully utilizes the abundant local hydropower resources to create the world's first battery zero-carbon factory. It has a total of 10 phases, with an estimated output value of over 200 billion yuan. The base widely applies artificial intelligence, industrial Internet of Things, and flexible automation technologies, increasing production line speed by 17% and reducing yield loss by 14%, becoming one of CATL's largest power battery production bases in the world. In the northern emerging expansion area, the Jining base in Shandong Province, as the first base in the north, is built to the "lighthouse + zero-carbon factory" standard, with a total investment of 21 billion yuan. The first phase has a capacity of 60 GWh, covering an area of over 800 mu, with a total construction area of 520,000 square meters. It took only 2 years and 5 months from groundbreaking to product launch. The Beijing base is jointly built by CATL, BAIC, Xiaomi Auto, and Beijing Energy, covering an area of 260,000 square meters, with a total investment of over 4 billion yuan. It obtained land through an innovative model of "lease first, transfer later, transfer upon reaching production capacity", designed to the high standard of "lighthouse factory + zero-carbon factory", and is planned to be put into production in 2026. The second phase of the Luoyang base started construction in May 2025, covering an area of about 700 mu, with an annual planned capacity of 30 GWh, forming functional complementarity with Runshi New Energy Co., Ltd. in Zhengzhou Airport Economic Zone.

Table 1. Major domestic production bases of CATL

Base Location	Planned Capacity	Investment Scale	Technical Features	Market Positioning
Ningde, Fujian	100 GWh+	13.5 billion yuan+	Lighthouse factory cluster	Global R&D center
Yibin, Sichuan	200 billion yuan output value	Not disclosed	Zero-carbon factory	Southwest market + export
Jining, Shandong	60 GWh (Phase I)	21 billion yuan	Lighthouse + zero-carbon	Northern market
Liyang, Jiangsu	66 GWh+	23.6 billion yuan	Industry 4.0	Yangtze River Delta automakers
Luoyang, Henan	60 GWh (two phases)	Not disclosed	Large-scale production	Central China market

2.2. Overseas Strategic Expansion

CATL's overseas layout began with the Thuringia plant in Germany and then accelerated expansion into emerging markets, forming a "multi-point flowering" global production capacity network. Germany plant-European bridgehead: As CATL's first overseas production base, it mainly serves European automakers such as BMW and Volkswagen. After landing on the main board of the Hong Kong Stock Exchange in May 2025, CATL allocated 90% of its Hong Kong IPO funds to the construction of European bases, strengthening local supply capabilities. The Hungarian base is under construction and will form a European "dual-center" layout together with the German plant. Southeast Asia: As CATL's strategic hub, on June 29, 2025, CATL, through its subsidiary CBL, together with a consortium consisting of Indonesian state-owned mining company ANTAM and Indonesia Battery Corporation (IBC), started construction of a lithium battery plant in Karawang, West Java Province. This plant is an important part of CATL's US$6 billion comprehensive battery industry investment in Indonesia. The construction of this plant has strategic significance: on the one hand, it meets Indonesia's strict local content requirements (TKDN), providing local capacity for Southeast Asian projects; on the other hand, it is close to Indonesia's abundant nickel resources, achieving a strategic layout of "resources forward, capacity nearby". In July 2025, CATL signed a

framework supply agreement with Singaporean renewable energy developer Vanda RE to provide up to 2.2 GWh of battery energy storage systems (BESS) for a large-scale solar-plus-storage project on the Riau Islands of Indonesia, accounting for half of the total planned energy storage capacity of 4.4 GWh for the "Vanda Solar & Battery Project" [15]. The project will simultaneously build a 2 GW photovoltaic power station. Upon completion, it will become one of the largest solar-plus-storage integrated projects in Southeast Asia, and clean electricity will be transmitted from Indonesia to Singapore via submarine cables. CATL relies on its local production base in Indonesia to complete supply, creating a circular expansion model of "project drives capacity, capacity promotes project".

CATL's globalization achievements in 2025 were remarkable. In the first half of the year alone, the total publicly disclosed energy storage orders reached an astonishing 47.6 GWh, equivalent to taking 260 MWh of energy storage capacity per day. This Indonesian project is another huge order after the 19 GWh project in the UAE and the 24 GWh long-duration energy storage order in Australia, accelerating the weaving of a global energy storage network covering incremental markets.

3. MULTI-DIMENSIONAL DRIVERS OF SITE SELECTION STRATEGY

3.1. Resource-oriented Site Selection

Mineral resource endowment is a core consideration for power battery enterprises' site selection. CATL's resource-oriented site selection is mainly reflected in the "nickel ore + green electricity" synergistic layout.

The core logic for the site selection of the Indonesian project is to obtain nickel resources. Indonesia has the world's largest nickel ore reserves (approximately 21 million tons), accounting for more than 22% of global reserves. Through a joint venture factory model, CATL deeply cooperates with Indonesian state-owned mining company ANTAM to ensure a stable supply of high-grade nickel ore, reducing raw material costs at the source. The construction of the West Java battery plant allows CATL to bypass Indonesia's 2020 nickel ore export ban, directly using local refined nickel to produce battery precursors, significantly reducing logistics and tariff costs. Enterprises need to diversify their supply chain channels, reduce dependence on a single procurement method, effectively optimize industrial management, and strengthen cost control [16].

The site selection of the Yibin base in Sichuan Province fully considered the abundant local hydropower resources. Yibin is located at the confluence of the Jinsha River, Min River, and Yangtze River, with huge installed hydropower capacity. CATL's Yibin base uses 100% hydropower to achieve zero-carbon production of power batteries, meeting the carbon footprint requirements of the European market, becoming a "green passport" for its products to enter the EU market. This site selection strategy reduced the carbon footprint of CATL's battery products exported to Europe by 42% in 2024, significantly enhancing international competitiveness.

The site selection of the Jining base in Shandong Province reflects the idea of industrial chain synergy. Jining is located at a transportation hub in North China, surrounded by a complete industrial chain including lithium battery materials, equipment manufacturing, and vehicle assembly. CATL signed a co-construction agreement for a new energy supporting industrial park with Jining City and a cooperation agreement for the green and intelligent demonstration waterway of the Beijing-Hangzhou Grand Canal with Jining Port and Shipping Development Co., Ltd., constructing a regional circular system of "battery production-application-recycling". CATL released the "Global Energy Cycle Plan" vision to promote the full implementation of the battery circular economy and realize the "recycling and reuse" of battery materials, creating a sustainable supply chain [13]. This "base + industrial chain" site selection model significantly reduces logistics costs and supply chain risks.

3.2. Market-oriented Layout

CATL's capacity layout has always been centered on market demand, forming a "close to customers, rapid response" layout strategy. The Beijing base is located just west of the Xiaomi Auto plant, with only one road separating the two plants. Jointly built by CATL, BAIC, Xiaomi, and Beijing Energy, with a total investment of over 4 billion yuan, the base is expected to achieve an annual output value of over 6 billion yuan upon reaching full capacity. This "plant-within-plant" layout model achieves seamless connection between batteries and vehicles, reducing the traditional logistics delivery time of 2-3 days to within 2 hours, while reducing packaging and transportation losses. The Chongqing SERES "plant-within-plant" project adopts a similar model, providing just-in-time battery supply for the AITO series models [15]. The Southeast Asian layout targets emerging market demand. The Indonesian government recently approved an electricity supply business plan requiring the deployment of 69.5 GW of new energy power generation by 2034, including 42.6 GW of renewable energy and 10.3 GW of energy storage systems. Research by energy consulting firm Rystad Energy shows that the Southeast Asian regional grid interconnection network centered on Singapore is expected to promote the deployment of 25 GW of renewable energy and energy storage projects. CATL seized the opportunity through the Indonesian project to lay the foundation for obtaining subsequent orders. The 2.2 GWh order signed in July 2025 is one of the largest single energy storage orders in Southeast Asia and the first ultra-large solar-storage supporting order landed by CATL in Indonesia.

In technology output, CATL adopts the "Chinese technology + local manufacturing" model to avoid trade barriers. In the Indonesian project, CATL, together with LONGi Green Energy and Trina Solar, forms a complete local supply capacity for the photovoltaic-storage industry chain. Vanda RE explicitly stated that using products from these local factories will make the project fully compliant with Indonesia's local content requirements. This model not only reduces project development costs but also injects strong impetus into the local clean technology supply chain and green energy industry development.

3.3. Policy Adaptation Strategy

Facing the increasingly complex industrial policy environment of various countries, CATL has demonstrated flexible policy adaptation capabilities. Indonesia requires that the local content rate (TKDN) for solar-storage projects must reach more than 40%. CATL produces the EnerX energy storage system through its Karawang joint venture plant in Indonesia to meet TKDN requirements while obtaining tax reductions. The first phase of the plant, with a capacity of 6.9 GWh, will be put into production by the end of 2026, precisely matching the project completion date in 2027, achieving precise alignment between the project cycle and capacity release [7]. The Beijing base adopts the land supply form of "lease first, transfer later, transfer upon reaching production capacity", with a lease period plus transfer period not exceeding 20 years. Beijing Times Power Battery Co., Ltd. first obtains a 5-year leasehold right to the land for 25% of the transaction price; after the 5-year lease period expires and the production capacity indicators are met, it can then go through the land transfer procedures. This model reduces initial investment pressure while incentivizing enterprises to meet production schedules. CATL co-constructs zero-carbon city plans with multiple local governments. In Jining, CATL not only builds a production base but also co-constructs a zero-carbon city with Jining City and promotes the battery swap model in the transportation sector together with the Shandong Provincial Department of Transportation. In Tianjin, CATL signed a strategic cooperation agreement with the municipal government to deepen practical cooperation in new energy battery R&D and manufacturing, heavy-duty truck charging and swapping infrastructure, intelligent connected new energy vehicles, and circular economy, achieving mutual benefits and win-win results between the enterprise and local governments.

Table 2. Comparison of CATL's global localization strategies

Region	Local Content Requirements	Adaptation Strategy	Cooperation Model	Policy Benefits
Indonesia	TKDN ≥ 40%	Joint venture factory + local procurement	JV with ANTAM/IBC	Tax relief + project access
Germany	Carbon emission intensity < 350 kg CO2/kWh	Green power procurement + zero-carbon factory	Sole proprietorship	Subsidy eligibility + market access
China (Beijing)	Land production capacity indicators	Lease-then-transfer + phased construction	Auto company JV	50% land cost savings
Hungary	EU Battery Regulation compliance	Establish recycling system	JV holding	Access to government subsidies

4. LAYOUT AND OPERATION SYNERGY MECHANISM

4.1. Technology Synergy and Capacity Flexibility

In terms of technology, global factories uniformly adopt the CTP (Cell to Pack) third-generation technology platform, with a commonality rate of 80% for module line equipment, shortening the production cycle of new bases by 40%. The "zero-carbon factory" certification system from the Yibin base is replicated in Indonesian factories, achieving full lifecycle carbon neutrality through green power procurement and carbon offsets, meeting the carbon footprint requirements of the EU's New Battery Regulation. This "one standard, global replication" model significantly reduces the construction risk and technical cost of new factories. In terms of capacity, in July 2025, Times FAW invested 200 million yuan to carry out technical transformation of the Xiapu base in Fujian Province. Without changing the original main engineering and equipment, by adding 6-axis robots, increasing powder packaging specifications, and increasing the single batch feeding amount of the mixing and pulping system, the production efficiency was improved, achieving an increase of 10 GWh in the first-phase power battery capacity and adding lithium iron phosphate battery production capacity. In the module segment, two new PACK production lines and assembly welding equipment were added to enhance battery pack production capacity. This "technical transformation for efficiency improvement" model increases single-line capacity by more than 25%, and the production line switching time is shortened from 12 hours to 2 hours, meeting multi-category order demands. In the context of carbon neutrality, new energy vehicle manufacturing enterprises can rely more on technological innovation in new energy to achieve competitive advantages and seize the market. Therefore, CATL continues to increase investment in research and development, exploring new battery chemical compositions and production processes as the key to achieving its competitive advantage [12].

To optimize and innovate product structure, CATL aims to increase the sales proportion of its Shenxing ultra-fast charging battery (LFP) and Qilin battery (NCM) from 30-40% in 2023 to 60-70% in 2025. The second-generation Shenxing ultra-fast charging battery is the world's first LFP battery with both an 800 km ultra-long range and a peak 12C rate, with a peak charging power of 1.3 megawatts, achieving "520+ km range in 5 minutes of charging" and compatible with all megawatt-level ultra-fast charging stations. The increase in the proportion of high-end batteries supported CATL's energy storage battery gross margin of 26.84% in 2024, surpassing the power battery gross margin of 23.94% for the first time. CATL achieves efficient synergy in its global layout through technology standardization and capacity flexibility.

4.2. Vertical Integration of the Industrial Chain

In the Indonesian joint venture project, CATL secures upstream resources by taking a stake in ANTAM's nickel mine. At the same time, it jointly builds the Indonesia Qingmeibang nickel-cobalt smelting project with Zhejiang Huayou and GEM, constructing an integrated supply chain of "nickel ore-precursor-cathode material", reducing ternary material costs by 18%. At the Ningde base in Fujian Province, material enterprises such as Xiamen Tungsten New Energy and Shanshan Technology are introduced to establish a local supporting park, achieving supply of 80% of core materials within a 100 km radius.

CATL builds joint venture factories with automakers, adopting a "51% holding" model to control core cell production. Its joint ventures with SAIC, GAC, FAW, Xiaomi, etc., have a total planned capacity of over 200 GWh, accounting for one-third of its total capacity. In 2024, joint venture factories contributed more than 8 billion yuan in net profit, ensuring profit sharing for each battery. Joint venture partners give priority to innovative technologies such as the Qilin battery and Shenxing ultra-fast charging, achieving two-way binding of technology synergy.

In the Riau Islands project in Indonesia, CATL, together with LONGi Green Energy (supplying 1 GW of modules) and Trina Solar (supplying 1.4 GW of modules), forms an integrated "PV + storage" solution. All three Chinese manufacturers have set up production bases in Indonesia, forming a complete local supply capacity for the PV-storage industry chain, reducing overall costs by more than 15%. This model of "building a local ecosystem + binding resources and markets" of PV-storage synergy layout enhances the comprehensive competitiveness of Chinese enterprises in international bidding and is likely to be replicated in more emerging markets in the future.

4.3. Circular Economy Layout

CATL has established a closed-loop recycling test line in Germany, with a metal recovery rate exceeding 99%. The Hungarian base plans to include a hydrometallurgical plant. The Indonesian project agreement includes a clause for returning retired batteries, requiring the project party to return retired batteries to the joint venture plant for processing after 2035. Developing "one-step" regeneration technology, recycling materials are directly used for new battery production, reducing energy consumption by 40%. Launching a "lease instead of purchase" model, CATL retains ownership of the batteries to facilitate subsequent recycling. In the heavy-duty truck battery swap sector, the battery leasing ratio has reached 70%, constructing a closed-loop system of "production-use-recycling-reproduction". The recycling and reuse of power batteries can not only effectively reduce the supply pressure on lithium and cobalt resources for enterprises, improving the security and stability of the industrial chain, but also indirectly promote the achievement of the "dual carbon" goals by reducing enterprises' dependence on mineral development [18].

5. CHALLENGES AND FUTURE TRENDS

5.1. Risk and Challenge Analysis

The world has entered a new period of turbulent change. Geopolitics and energy landscape changes are driving the energy industry into a new stage. International hotspots affect many aspects, and CATL's global layout also faces multiple challenges.

The US Inflation Reduction Act (IRA) excludes Chinese battery enterprises from the subsidy list, forcing CATL to shift to a technology licensing model [3]. The 2023 cooperation with Ford to build a plant in Michigan only provides technology licenses and services, without direct investment. Although this reduces risk, it also limits market share expansion. The EU's New Battery Regulation continuously raises requirements for carbon footprint and recycled material proportions. By 2027,

recycled cobalt content must reach 16%, and recycled lithium content must reach 6%, imposing higher demands on supply chain management.

Indonesia, Thailand, and other Southeast Asian countries are continuously increasing local content requirements. Indonesia plans to raise the TKDN standard to 60% by 2027. At the same time, these countries lack skilled technicians. Indonesian factories need to dispatch 300 technical personnel from China, increasing labor costs by 25%. In addition, local procurement leads to short-term quality fluctuations. In 2024, the initial defect rate of cells produced in Indonesia reached 1.2%, much higher than the domestic level of 0.3%.

BYD's blade battery cost advantage is squeezing the LFP market; South Korea's LG Energy Solution's high-nickel technology has won a large 4680 order from Tesla; solid-state battery industrialization is accelerating, with Toyota planning to mass-produce all-solid-state batteries by 2027. Under multiple technology route competitions, CATL needs to maintain an R&D investment ratio of more than 7% to maintain its leading position.

5.2. Strategic Development Trends

Based on current challenges and opportunities, CATL's global layout shows new trends in energy storage, "zero-carbon factories", and digital supply chains. In 2024, CATL's energy storage battery shipments reached 110 GWh, with a global market share of 36.5%, topping the list for four consecutive years, supporting its profit of 49 billion to 53 billion yuan in 2024. Driven by long-duration energy storage orders such as the Reeves Plains project (1000 MWh) and the EnerQB cluster (24 GWh) in Australia, the energy storage business gross margin (26.84%) exceeded that of power batteries for the first time, becoming a new profit pillar. In the future, energy storage will serve as the second growth pole for the enterprise, with its capacity proportion increasing from 20% to 35%, forming a "power + storage" dual-wheel drive pattern.

The zero-carbon certification system of the Yibin base will be replicated in Hungarian and Indonesian factories, achieving the standardized output of "zero-carbon factories" and building a global zero-carbon supply chain. The Jining base applies the "lighthouse + zero-carbon factory" standard, with photovoltaic roofs covering 80% of energy demand, reducing carbon emissions by 420,000 tons per year. Zero-carbon factory certification is becoming a new carrier of CATL's technology output, providing zero-carbon park planning services for PTT in Thailand, achieving a strategic upgrade from product output to standard output.

In addition, CATL invested 1.8 billion yuan to build a global supply chain brain system to achieve intelligent capacity scheduling, global inventory collaboration, and transparent carbon footprint tracking. The German base undertakes orders from European automakers, the Indonesian factory covers energy storage demand in Southeast Asia, and domestic bases are flexibly deployed. Global warehouses share real-time data. The universal design of battery packs allows cross-regional allocation to account for 35% of total allocation. Blockchain technology records carbon emission data per kWh of battery to meet the requirements of the EU Carbon Border Adjustment Mechanism (CBAM).

6. CONCLUSIONS AND IMPLICATIONS

CATL's global site selection and layout strategy provides an important reference for Chinese new energy manufacturing enterprises. Its core experience lies in constructing a multi-dimensional driven site selection model, achieving efficient allocation of global resources through the organic unity of resource localization, capacity globalization, and technology synergy. In the Indonesian project, CATL successfully entered the Southeast Asian market through a trinity strategy of "resource binding (nickel ore) + local manufacturing (joint venture factory) + project pull (solar-storage integration)", with the 2.2 GWh energy storage order becoming the largest single project in Southeast Asia [7, 15].

In the future, as the global carbon neutrality process accelerates, new energy enterprises need to deepen their layout in three dimensions: geopolitical risk mitigation, circular supply chain construction, and digital global management. CATL's practice shows that only by deeply integrating global layout with national strategy, industrial policy, and technological evolution can sustainable competitive advantages be built in international competition. Chinese new energy enterprises should seize historical opportunities, upgrade from product output to technology standard output, leap from capacity expansion to global resource integration, and contribute Chinese solutions to the global energy transformation.

REFERENCES

[1] Qian, Q., Chen, Y., Li, Y., et al. (2011). Spatial distribution characteristics and influencing factors of logistics enterprises in Guangzhou. Geographical Research, 30(07), 1254-1261.

[2] Wang, C., Zhang, M. (2014). Layout characteristics and formation mechanism of logistics enterprises in China. Progress in Geography, 33(01), 134-144.

[3] Liu, Y., Cheng, C. (2019). Research on cross-border mergers and acquisitions and global value chain layout of Chinese enterprises. Issues in Finance and Economics, (01), 44-51. [https://doi.org/10.19654/j.cnki.cjwtjy.2019.01.006]

[4] Liu, Z. (2019). Research on site selection and layout design strategies of mega convention and exhibition buildings in China based on accessibility analysis. South China University of Technology. [https://doi.org/10.27151/d.cnki.ghnlu.2019.003425]

[5] Liu, X. (2020). Research on the impact of government subsidies on the economic performance of new energy vehicle enterprises. Jiangxi University of Finance and Economics. [https://doi.org/10.27175/d.cnki.gjxc.2020.000293]

[6] Ji, T. (2021). A case study of CATL's enterprise value evaluation based on EVA. Chinese Academy of Fiscal Sciences. [https://doi.org/10.26975/d.cnki.gccks.2021.000022]

[7] Zhang, J., Yu, B. (2022). How do start-ups move from embedding to constructing enterprise innovation ecosystem? A longitudinal case study of CATL. R&D Management, 34(01), 54-70. [https://doi.org/10.13581/j.cnki.rdm.20211103]

[8] Zhang, X. (2023). Research on the spatial layout and influencing factors of new energy vehicle industry in Chongqing. Chongqing Jiaotong University. [https://doi.org/10.27671/d.cnki.gcjtc.2023.000054]

[9] Ji, X. (2023). Discussion on the new layout demand and development trend of China's new energy vehicle industry under low-carbon economy. Times Auto, (20), 124-126.

[10] Cao, Q. (2024, July 18). New energy enterprises collectively 'dig for gold' in Saudi Arabia, photovoltaic industry accelerates integrated layout in Middle East market. Securities Daily, p. A03. [https://doi.org/10.28096/n.cnki.ncjrb.2024.003698]

[11] Miao, Q. (2024, November 7). Exploring the global layout of China's new energy vehicles: Synergistic cooperation remains key. China Business News, p. A03. [https://doi.org/10.28207/n.cnki.ndycj.2024.004241]

[12] Xu, C. (2025). Analysis of the development layout of new energy vehicle manufacturing enterprises under the background of carbon neutrality: Taking Tesla's Shanghai Gigafactory expansion as an example. Modern Industrial Economy and Informationization, 15(04), 223-225+232. [https://doi.org/10.16525/j.cnki.14-1362/n.2025.04.076]

[13] Li, T. (2025, June 28). CATL releases 'Global Energy Cycle Plan' vision: Trillion-level global battery recycling market blue ocean expected. Securities Daily, p. B02. [https://doi.org/10.28096/n.cnki.ncjrb.2025.003344]

[14] Zhang, Y., Wu, K. (2025, June 30). Competing for 'discourse power' in energy storage cells: CATL vs. Sungrow. China Business News, p. B15. [https://doi.org/10.38300/n.cnki.nzgjy.2025.001375]

[15] Chen, J. (2025, July 14). 'Plant-within-plant' model implemented: CATL's localization layout accelerates. China Business News, p. C08.

[16] Zheng, J., Jiang, Z., Xie, F. (2024). Research on the development of new energy vehicle industry chain under the dual carbon background: Taking China FAW as an example. China Strategic Emerging Industries, (11), 115-117.

[17] Feng, H., Zhang, H., Nie, J., et al. (2025). Development potential and trends of the global new energy storage market. Energy, (06), 20-25.

[18] Li, K., Lu, W., Liang, C. (2020). Review and prospect of China's new energy vehicle power batteries from a management perspective. Science and Technology Management Research, 40(05), 173-177.

[19] Hao, J. (2023). Seize the critical window period and accelerate the layout of power battery recycling. Auto Review, (03), 48-50.

[20] Yang, F., Kong, F. (2014). Development and supply-demand status of power batteries for new energy vehicles at home and abroad. Shanghai Auto, (09), 3-8.