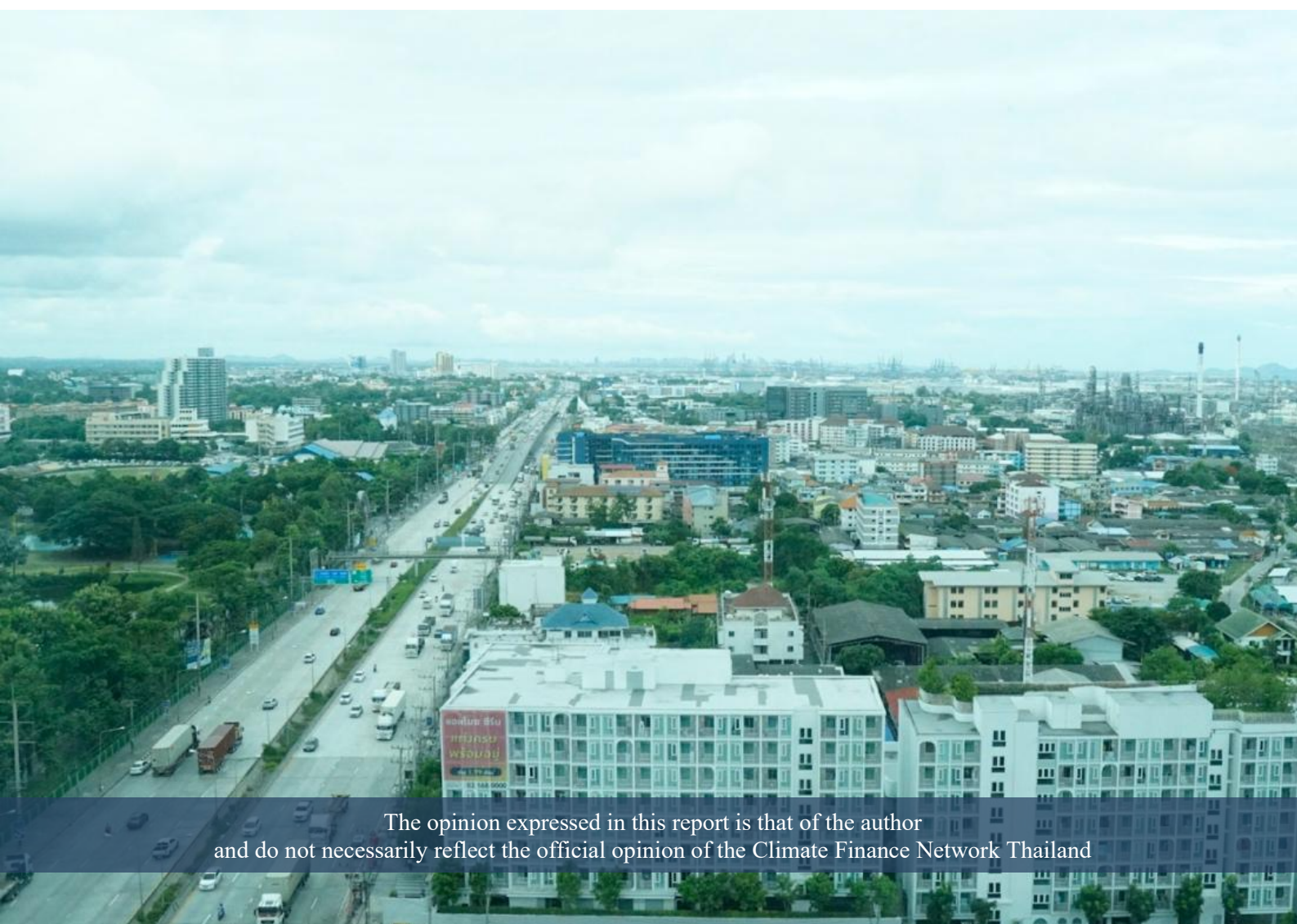


Can Chinese EV Investment Contribute to Thailand's Green Transformation?

July 2025

by
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The opinion expressed in this report is that of the author
and do not necessarily reflect the official opinion of the Climate Finance Network Thailand

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Climate Finance Network Thailand (CFNT) is a think tank and a network of like-minded individuals headquartered in Bangkok, devoted to propelling sustainable financial practices and assisting in Thailand's transition toward a low-carbon economy. CFNT's primary objective is to help catalyze impactful climate finance through solution-based research, stakeholder engagement, and network building. Our goal is to assist Thailand's financial sector to be more responsive to the challenges of climate change. By uniting forces with like-minded partners, CFNT endeavors to help shape a financial landscape that aligns with global sustainability goals and fosters a resilient, green, and inclusive economy.

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Suggested Citation

Yuan, Y. (2025). *Can Chinese EV investment contribute to Thailand's green transformation*. Center for Social Development Studies and Climate Finance Network Thailand.

Overview

This policy brief examines the governance structures and local implications of Chinese electric vehicle investment in Thailand. It intends to provide an evidence-based reference point for policymakers and stakeholders in both countries, for future research, analysis, and action towards a more inclusive, trusted, and equitable form of sustainable development.

Policy pointers:

- When attracting foreign investment, Thailand's Board of Investment (BOI) should **set clear definitions for local content procurement** to ensure authentic local gains.
- To contribute to green transition, there should be targeted support for production-intensive factories and power hungry EVs to **access renewable energy and clean power**.
- **Weak penalties** set by the current Factory Act in Thailand and **lack of stringent Environmental Impact Assessment** in the country's Eastern Economic Corridor (EEC) have resulted in unregulated EV-related e-waste affecting local communities.
- Greater accountability of waste management should involve **more inclusive governance with community participation**.

Key words: green technology transformation; environmental, social and governance (ESG); Chinese outbound investment; climate governance in South-South collaboration



Figure 1 Ground staff working in the recreation facilities of the production factory of Great Wall Motor, Rayong.
(Credit: Ye Yuan)

Introduction

Highly vulnerable to climate change, Thailand is committed to achieving carbon neutrality by 2050 under the Paris Agreement. To a country still largely relying on natural gas and coal for energy supply, meeting this goal would require Thailand to increase the use of renewable energy and reduce greenhouse gas emissions in its economic activities. Among the set of policies the country pursues, the Thai government is focusing on electric vehicles (EV), seeking to promote “zero-emission cars” to reach at least 30% of domestic vehicle production by 2030.¹

Thailand’s EV push is partly driven by foreign investors, notably the “fast and furious” Chinese investors, as is described a working group under the Commission on Economic Development, House of Representatives.² Currently, seven Chinese EV brands have set up local production bases in Thailand, including BYD, Great Wall Motor, SAIC Motor (MG brand), NETA, GAC Aion, and Changan Automobile. Between 2017 and 2023, Thailand has attracted a total amount of 61 billion baht in EV-related investment.³ But the turning point was 2024. Driven by Chinese investors, Thailand’s automotive and parts sector received a combined value of 102.4 billion baht in 309 investment projects in the year alone, ranking third in foreign direct investment among all sectors.⁴ In total, foreign direct investment has contributed at least THB 43,059 million of project value to the country’s EV sector, according to the climate finance tracker by the Climate Finance Network Thailand⁵.

The country’s EV vision aligns with a broader global pivot by Chinese carmakers, who are increasingly expanding overseas to diversify markets amid domestic oversupply and to hedge against risks arising from escalating U.S.-China and EU-China trade frictions. Electric vehicles, together with solar products and lithium batteries, are touted by the Chinese government as the country’s “new three” exports, key components of its green technology push.⁶ To support the transition to EV, Thailand has pledged 41 billion Thai Baht to spread in between 2024 to 2027 to fund the production of cleaner, “next-generation” automobiles in the country.⁷ Around 7 billion Thai Baht had been spent by mid-2024 in offering import subsidies on 40,000 EVs.⁸ Foreign EV makers are eligible to receive up to 40% cuts on import duties and reduced excise tax rate. In return, participating companies must commit to producing EVs locally in Thailand by 2027.

This alignment is clearly reflected in the speeches of Chinese EV executives, including in open praise from Wang Chuanfu, founder and CEO of BYD, the leading EV brand in Thailand. “Thailand has a clear vision for electric vehicles and is entering a new era of car manufacturing. We will bring the technology from China to Thailand,” said Wang at the inauguration ceremony of the company’s first overseas factory in Thailand’s Rayong province in 2024.⁹

¹ BOI. 2023. https://www.boi.go.th/un/boi_event_detail?module=news&topic_id=134676&language=en.

² Commission on Economic Development, House of Representatives, Thailand. “Fast & Furious 2024: A Year of Turmoil for Thai Automobiles and New Adjustments to the Future”.

³ BOI. 2023. https://www.boi.go.th/un/boi_event_detail?module=news&topic_id=134676&language=en

⁴ BOI. 2025. https://www.boi.go.th/index.php?page=press_releases_detail&topic_id=136698&module=news&from_page=press_releases2

⁵ Climate Finance Network Thailand. 2025. <https://climatefinancethai.com/tracker/>

⁶ Griffith Asia Institute. 2024. <https://blogs.griffith.edu.au/asiainsights/china-green-trade-report-2023/>

⁷ Bangkok Post. 2023. <https://www.bangkokpost.com/business/motoring/2708873/last-minute-ev-buyers-get-subsidy-sweetener?>

⁸ Nation Thailand. 2024. https://www.nationthailand.com/news/policy/40039499?utm_source=chatgpt.com

⁹ Deutsche Welle Chinese. 2024.

<https://www.dw.com/zh/%E7%A8%8E%E4%BB%80%E4%B9%88%E6%AF%94%E4%BA%9A%E8%BF%AA%E6%B3%B0%E5%9B%BD%E6%96%B0%E5%8E%82%E6%8A%95%E4%BA%A7/a-69561330B>.

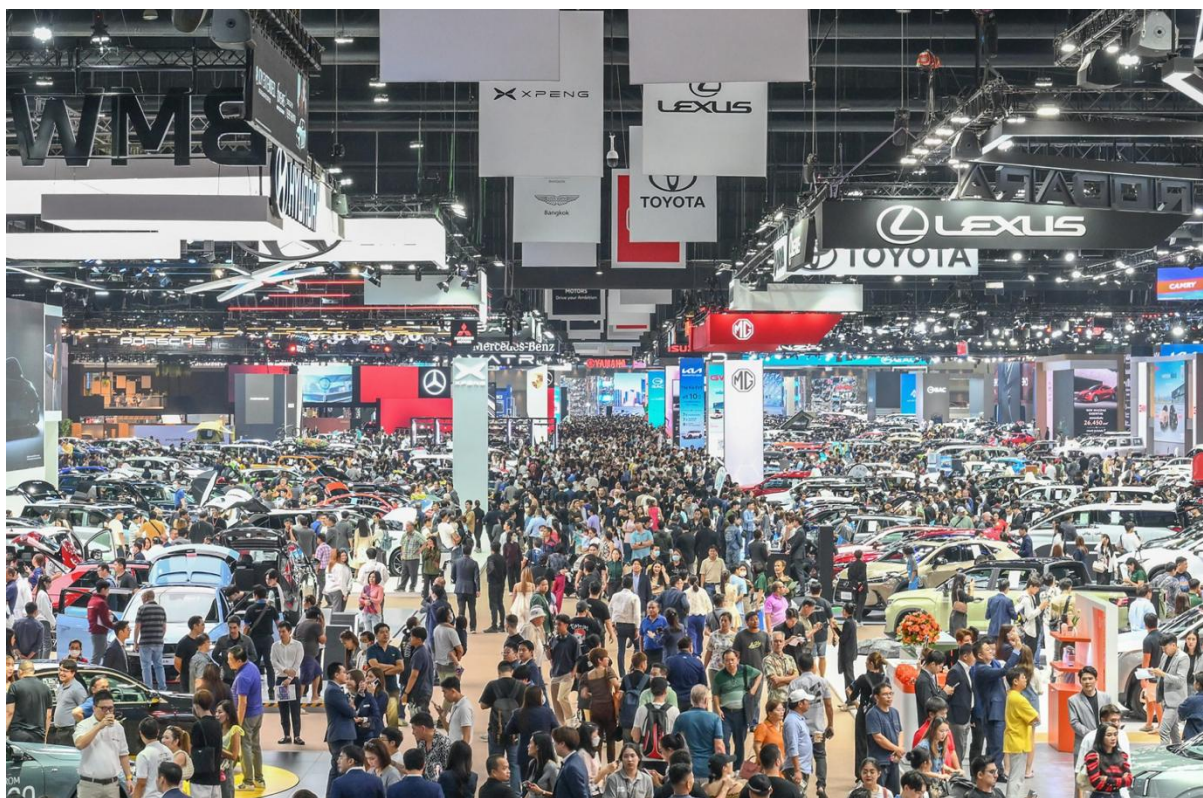


Figure 2 Visitors check out the latest models at the 2025 Bangkok Motor Show. (Credit: Grandprix)

However, this industrial transition will not be a smooth one. With fewer components and higher-level automation in EV manufacturing, the transition from fossil-fueled cars (gasoline and natural gas) to EV in Thailand has long raised concerns about the displacement of automotive manufacturing workers.¹⁰ Thailand has already seen news of closures of factories due to car sales slump and market competition amid a sluggish domestic economy, including a planned shutdown of Suzuki Motor's Thai plant by the end of 2025 that will affect 800 local jobs.¹¹ Currently, there are 700,000 to 800,000 people directly employed in the country's automotive, auto parts and electronic component supply chain.¹² With the auto sector making up 11% of Thailand's national GDP, this ripple effect has already been felt along the automotive supply chains amid cost pressure from China's part makers, raising concerns that Thai suppliers of Tier 2 or below may not survive the blow.¹³

This policy brief aims to examine the governance of China's electric vehicle (EV) investments in Thailand and assess their wider social and environmental impacts. As investment deepens, it becomes increasingly important to evaluate how these policies intersect with Thailand's sustainability goals. This brief explores how to better align Chinese firms' overseas strategies with Thailand's evolving frameworks on environmental governance, labor standards, and community resilience, ensuring that industrial transformation contributes to just, inclusive, and climate-resilient development.

¹⁰ World Resources Institute. 2024. <https://www.wri.org/insights/ev-transition-auto-manufacturing-jobs>

¹¹ Bangkok Post. 2024. <https://www.bangkokpost.com/business/motoring/2806951/suzuki-to-stop-making-cars-in-thailand-to-focus-on-ev-shift>

¹² Bangkok Post. 2024. <https://www.bangkokpost.com/business/motoring/2907022/thai-auto-industry-employment-declining>

¹³ Commission on Economic Development, House of Representatives, Thailand. "Fast & Furious 2024: A Year of Turmoil for Thai Automobiles and New Adjustments to the Future".

Research approach

A central concept guiding this research is the idea of green transformation, especially as it increasingly unfolds through transnational financial and political forces. While the term carries many meanings, there is a growing sense in political and public debates around the world that society and economy are in urgent need of green transformation, albeit to varying degrees.¹⁴ This study considers green transformation as an interdisciplinary process that spans social, energy, climate and environmental governance domains. It adopts the definition of green transformation as an approach that combines both “top-down” – involving elite alliances between state and businesses – and “bottom-up”, pushed by grassroots innovators and entrepreneurs, and part of wider mobilizations among civil society.¹⁵

In China, green transformation is led by the state and closely tied to national development goals. It is seen not only as an environmental responsibility but also as a chance to upgrade industries and strengthen global competitiveness. Woven with targets on resource management, pollution control and green industry development, “green transformation” as a shift in development model is confirmed as a national strategy in the country’s 13th Five Year Plan,¹⁶ which has formed the policy foundation for economic planning between 2021 and 2025.

In Thailand, the shift is driven more by efforts to modernize the economy and align with global sustainability goals, as well as by concerns about climate risks and the future of its manufacturing sector. Specifically, a “bio-circular-green economy model” was proposed in Thailand’s Thirteenth National Economic and Social Development Plan (NESDP)¹⁷ that is purported to be in line with Thailand’s sufficiency economy philosophy. Policymakers went on to explain that this model means that “scientific, technological and innovative knowledge” are leveraged to “create added economic value and strive for a balance between the conservation and use of the natural resources base and biodiversity”, according to the 13th NESDP.

Methodology

The research involved analysis of policy documents and financial reports, and 13 key informant interviews from political parties, civil society and academics, corroborated by exploratory field visits in the Eastern Economic Corridor. The study tries to incorporate diverse versions of sustainability that differ in how countries, interest groups, and communities prioritize social and environmental concerns. It does this through a close look at the governance structures in China and Thailand related to these investments, to characterize the current situation that is unfolding at scale. This brief intends to provide evidence-based reference points for policymakers and stakeholders in Thailand and China for future research, analysis and action.¹⁸

¹⁴ Leach. 2015. “What Is Green? Transformation imperatives and knowledge politics.” *The Politics of Green Transformations*, p. 14.

¹⁵ Scoones, Leach, Newell. *The Politics of Green Transformations*. <https://steps-centre.org/publication/green-transformations/>

¹⁶ 中华人民共和国中央人民政府. https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm

¹⁷ Office of the National Economic and Social Development Council. Thailand. https://www.nesdc.go.th/article_attach/article_file_20230615134223.pdf

¹⁸ Limitations of this study mainly lie in the lack of first-hand evidence on EV companies’ internal governance as the companies with manufacturing bases in Thailand either declined or didn’t reply to our interview requests.

Key findings

EV governance in China

1) China's playbook to develop EV

Generous subsidies and various state support from the Chinese government over the past decade has planted the seed for the EV sector to grow, sparking an EV revolution that has today become a significant driver of China's transitioning economy. Since the early 2000s, leveraging the country's traditional auto production capabilities, China's central government has focused resources to develop the sector. This earliest policy motivation was linked to the country's desire to climb up the manufacturing value chain by betting on EV, as the country saw limited chance to compete with Japanese and German carmakers that dominated the traditional auto market. This strategy is known in China as “弯道超车”, or “overtake on the curve”¹⁹.

Over the past decades, state support to EV has come in multiple formats: cultivating battery and EV-related technology in national key R&D programs,²⁰ tax breaks and direct subsidies to car makers and consumers, “dual credit” policy to incentivize traditional car manufacturers to produce EVs,²¹ waiving car plate licensing for EV adopters, as well as public system procurement.

Between 2009 and 2022, the Chinese government granted over 200 billion RMB (\$29 billion) in subsidies and tax breaks for both domestic and foreign EV makers.²² The presence of leading EV company Tesla with endorsement from the Shanghai government also imposed the “catfish effect” on domestic players, who were then forced to compete and catch up. Fast forward to 2024, EV has taken up over 50% of China's domestic market share,²³ and supportive infrastructure – including charging and swapping stations – has also increased in volume. When a new cash-for-clunker program was initiated to phase out aging cars in the same year, over 60% of Chinese consumers opted for new energy vehicles (NEV), which comprise both zero emission vehicles and hybrid cars in China.²⁴

¹⁹ https://www.gov.cn/zhengce/2015-09/30/content_2941148.htm

²⁰ Ministry of Science and Technology of the People's Republic of China.

https://en.most.gov.cn/programmes/200610/t20061009_36224.htm#:~:text=The%20Key%20Technologies%20R&D%20Program,S&T%20strength%20and%20innovati on%20capacity

²¹ California-China Climate Institute. 2022. https://ccci.berkeley.edu/sites/default/files/China_Dual_Credit_Policy_Brief_Feb2022.pdf.

²² MIT Technology Review. 2023. “How did China come to dominate the world of electric cars?” <https://www.technologyreview.com/2023/02/21/1068880/how-did-china-dominate-electric-cars-policy/>

²³ 新华网. 2025. <http://www.news.cn/fortune/20250124/dc886900e44f4c47ab5672970e3e043f/c.html>

²⁴ 新华网. 2025. <http://www.news.cn/20250103/490f954dcd214ca79fe2692e449ff8f9/c.html>.



Figure 3 Workers' motorbikes are parked outside the factory of Great Wall Motor, Rayong province.
(Credit: Ye Yuan)

Today, China's electric passenger car market is highly competitive, with over 200 brands of both state-controlled manufacturers and private ones known as "the new forces", who are also grappling with huge oversupply in the domestic market. Amid cut-throat competition, companies' intensified price wars since last year have been worrying China's top leadership. In March, when delivering an annual work report to the nation, Chinese premier Li Qiang mentioned "involution",²⁵ a buzzword in China describing overzealous competition, as something the country's green industry needs to tackle. Heads of major EV makers, including BYD, were summoned to Beijing in June, told to "self-regulate" and not offer unreasonable price cuts.²⁶ This rare meeting hosted by China's market, industry and economic regulators on the sector's pricing issues suggests the degree of state scrutiny in the sector, as the Ministry of Commerce said they were working with other ministries to strengthen guidance to foster healthy development.

Meanwhile, in a failed recent attempt of state intervention, China's State-owned Assets Supervision and Administration Commission of the State Council, an institution under China's Cabinet, tried to consolidate Changan and Dongfeng Motor, two of the country's "national team", to overhaul the sector.²⁷

²⁵ Caixin. 2025. <https://topics.caixin.com/2025-03-05/102294985.html>

²⁶ Bloomberg. <https://www.bloomberg.com/news/articles/2025-06-05/china-warns-byd-rivals-to-self-regulate-as-price-war-heats-up>.

²⁷ Caixin Global. 2025. <https://www.caixinglobal.com/2025-06-05/scrapped-merger-upends-chinas-state-auto-overhaul-102327466.html>

2) Regulations of new energy vehicles (NEV)

Automobiles and automotive-related products are among the most regulated in the product quality and liability regime of China.²⁸ A China Compulsory Certification (CCC) must be secured before whole vehicles and applicable automotive parts (either domestically manufactured or imported) can be sold in the Chinese market.

The sector's growth is characterized by protectionism. For example, automotive production licenses are tightly regulated in favor of domestic carmakers. Companies seeking to produce EVs in China need to obtain two qualifications: provincial-level investment approval from China's top economic planner – the National Development Reform Commission – and verification of qualification by the Ministry of Industry and Information Technology (MIIT). This dual-qualification system gives Chinese regulators fine-grained control over who can enter the NEV manufacturing space. Prior to 2018, foreign automakers were also required to form joint ventures with Chinese companies, with a maximum foreign ownership of 50%.

Meanwhile, MIIT regularly publishes a catalogue of recommended NEV models for promotion. To be included in the catalogue, which serves as a gateway for government subsidies, carmakers must meet certain criteria, including the use of certified power batteries included on MIIT's annual "white list": an official list of operators, products and practices approved or favored by the government. This policy rewarded early compliance and allowed domestic companies aligned with government goals to scale quickly. It also created a barrier for foreign battery makers, favoring domestic players – including CATL and BYD – that have now become the industry leaders. This policy was abolished in 2019, when authorities reopened the market to international players in an effort to restore healthy competition amid increasingly disorderly and intense rivalry among domestic firms.²⁹

As the NEV-driven economy grows, authorities' watch over this sector is increasingly tied to China's economic development. This is exemplified by local governments' role in supporting vehicle exports, sometimes involving controversial practices that inflate sales figures by classifying new vehicles as used to meet Beijing's economic growth targets.³⁰

In 2024, clean-energy technologies contributed a record 10% of China's GDP for the first time ever, with sales and investments worth 13.6tn yuan (\$1.9tn).³¹ Solar photovoltaic (PV), lithium-ion batteries and EVs now make China's "New Three" exports and are increasingly tied to China's broader Belt and Road Initiative (BRI) arrangements. Meanwhile, overcapacity concerns under this rapid state-led growth have been raised both from home and abroad, with alarms of "disastrous" capacity production rate voiced by a state-owned manufacturer in China as early as 2022.³² Forced to adapt under tariff wars, China's EV makers' global strategy is now increasingly seen as deeply connected to their domestic sales.

3) Regulations of battery recycling

Currently, lithium iron phosphate (LFP) and lithium nickel manganese cobalt (NMC) batteries dominate the EV sector. To tackle pollution concerns associated with decommissioned batteries, which typically retire after seven to 10 years, MIIT has since 2018 released an annual "white list" of certified battery recycling companies, before an abrupt stop in 2024 for unknown reasons.³³ A tracing system was also

²⁸ Lexology 2024. <https://www.lexology.com/library/detail.aspx?g=bb78c0bb-f1d2-4780-af53-c9c78c26bdfb>.

²⁹ 中国能源报. 2019. https://paper.people.com.cn/zgnyb/html/2019-07/01/content_1933892.htm

³⁰ Reuters. 2025. <https://www.reuters.com/business/autos-transportation/local-chinese-governments-promote-zero-mileage-used-car-exports-inflating-sales-2025-06-23/#~:text=GOVERNMENT%20SUPPORT&text=Nearby%2C%20the%20southern%20Chinese%20metropolis.respond%20to%20requests%20for%20comment>.

³¹ Centre for Research on Energy and Clean Air. 2025. <https://energyandcleanair.org/analysis-clean-energy-contributed-a-record-10-of-chinas-gdp-in-2024/>

³² CCTV. 2022. <https://auto.cctv.com/2022/04/08/ARTIR1ECfivryuh5UAPndMk220408.shtml>

³³ 中国能源报. 2024. https://paper.people.com.cn/zgnyb/html/2024-08/26/content_26077906.htm

launched in 2018 to track and manage the batteries throughout their entire life cycle. Despite the publication of this officially approved white list, most decommissioned batteries didn't go to the certified recyclers, but ended up in a black market of unstandardized small workshops due to weak legal loopholes³⁴. To strengthen protections of whitelisted recyclers, MIIT and State Administration for Market Regulation issued a policy in 2023 encouraging insurers and development banks to provide financing support for businesses procuring certified batteries.³⁵

Meanwhile, the manufacturing of batteries and the energy source to power these batteries are the primary environmental costs relating to an electric vehicle. According to industry estimates, battery production currently accounts for 40–60% of an electric vehicle's total lifecycle emissions.³⁶ During London Climate Action Week in late June, battery maker CATL and the Ellen MacArthur Foundation announced a collaboration to “promote circular battery economy”, including increasing battery recycling and reuse to reduce mining raw materials so that “growth is no longer tied to extraction.”³⁷ Jiang Li, CATL's vice president and board secretary, said in London that the company aims to make 50% of its new battery production free from virgin raw materials within 20 years.

BRI and the changing governance of investment

1) From BRI 1.0 to BRI 2.0

Thailand is a key partner of China's Belt and Road Initiative (BRI) development plan. In 2022, amid deepening diplomatic ties, the then Thai government led by General Prayut Chan-O-Cha signed an MOU with Chinese President Xi Jinping to promote “a shared future for enhanced stability, prosperity and sustainability”.³⁸ In particular, the joint statement mentioned EV as a “high-potential” industry to “promote synergies” through industrial cooperation between Thailand's Eastern Economic Corridor (EEC) and China's Greater Bay Area and the Yangtze River Delta. This strategic alignment is the latest sign of how the two countries' bilateral cooperation is evolving under the BRI framework, as China tries to give its flagship project a lighter and greener character after years of external criticisms due to poor social and environmental records, project level difficulties, and bad debts.³⁹

In 2023, at the third Belt and Road forum held in Beijing, China announced the setup of a project preparation facility called Green Investment and Finance Partnership to help green growth pathways in host countries and address concerns of environmental risks and inadequate due diligence.⁴⁰ This facility is referred to as “analogous” to the Just Energy Transition Partnership (JETP) but with key differences in focus and financing models in terms of the China version adopting “blended finance with Chinese characteristics”.⁴¹ In addition to the support from China Development Bank and Exim Bank, the partnership has secured backing from the Bank of China, China International Capital Corporation and China Power International. In particular, the Hong Kong Monetary Authority and Hong Kong Exchanges and Clearing are also among the launching partners, suggesting an increasing role of Hong Kong in BRI 2.0.

According to Boston University's Global Development Policy Centre, during BRI's first decade, the China Development Bank and Exim Bank provided roughly US\$500 billion in financing to developing

³⁴ Dialogue Earth. 2023. <https://dialogue.earth/en/pollution/how-can-china-address-its-ev-battery-recycling-challenge/>

³⁵ 营口市市场监管局. 2023. <https://scjgj.yingkou.gov.cn/govxxgk/scjdgjl/2023-03-08/7c9a3883-b1f2-4d7c-a866-725720ed8ded.html>.

³⁶ 中国能源报. https://paper.people.com.cn/zqnyb/html/2022-09/12/content_25939754.htm

³⁷ CATL. <https://www.catl.com/en/news/6480.html>

³⁸ Ministry of Foreign Affairs, Kingdom of Thailand. <https://www.mfa.go.th/en/content/thchnjointstatement19112565-2?cate=5d5bcb4e15e39c306000683c>

³⁹ Lowy Institute. <https://www.loyyinstitute.org/the-interpret/belt-road-20>

⁴⁰ https://www.mee.gov.cn/ywgz/gjilhz/lsydy/202310/t20231029_1044244.shtml

⁴¹ South China Morning Post. <https://www.scmp.com/comment/opinion/article/3238517/china-steps-climate-fight-belt-and-road-green-finance-partnership>

countries in energy and infrastructure.⁴² However, the vast majority (97%) of China's climate-friendly finance has been provided as loans, with only 20% meeting the criteria for Official Development Assistance.⁴³ Meanwhile, as some countries face repayment deadlines as 2026 approaches, there have been concerns of debt pressures on vulnerable developing countries. China now has over \$78 billion in external debt under renegotiation since 2020, and there are signs that China has started to change approaches in providing debt relief and debt restructuring.⁴⁴ For example, it has begun participating in broader, more multilateral debt relief frameworks like the G20's Debt Service Suspension Initiative (DSSI), though such shifts are still incremental.

The use of BRI 2.0 was popularized after Christine Lagarde, the then managing director of the International Monetary Fund, spoke of it at the second Belt and Road forum in Beijing in 2019, when she advocated for the project to shift towards "a green, low-carbon and climate-resilient investment".⁴⁵ From 1.0 to 2.0, China's announcement at the 2023 forum was widely seen as a turning point for Beijing as BRI turned 10 that year.⁴⁶

China's investment in Thailand in the BRI 1.0 stage also follows its tradition of infrastructure megaprojects, including the expansion of Laem Chabang Port, a deep-sea port in the EEC.⁴⁷ As the role of private capital increases in the current BRI 2.0 stage, EV falls into the Thai government's plan to develop 12 "S-curved industries"⁴⁸ at a time when the country is trying to move towards the "4.0 economy". This political endorsement is also enforced through important regional diplomatic mechanisms such as the Lancang Mekong Cooperation (under the BRI), which lists automotive and parts as one of the priorities of "production capacity cooperation".⁴⁹ With the EEC as the main host region of EV investment under the BRI framework, these governance relations are officially put as follows:

*"China's prospective investment will be in line with the Belt and Road Initiative (BRI) and Green & Circular policy connecting area-based development of GBA [Greater Bay Area] & ILSTC [International Land Trade Corridor] with Thailand and CLMV [Cambodia, Laos, Myanmar, Vietnam]. China's investment volume in EEC is expected to be increased in sectors of EVs, electronics for EVs, 5G, digital infrastructure, and alternative energy."*⁵⁰

Notably, while BRI 2.0 still lacks a binding guidebook on investment, a collection of voluntary guidelines intended to improve governance has sprung up in recent years. One of the most specific ones is Green Investment Principles for the Belt and Road (GIP), jointly developed in 2018 by the Green Finance Committee of the China Society for Finance and Banking and the City of London Green Finance Initiative, with participation of Principles for Responsible Investment, the Sustainable Banking Network, the Belt & Road Bankers Roundtable, the Green Belt and Road Investors Alliance, the World Economic Forum, and the Paulson Institute.⁵¹ As a document of advocated principles, GIP specifically asked companies to embed sustainability into corporate governance, integrate ESG factors into supply chain management, use green financial instruments, and try to align with recommendations given by the Task Force on Climate-related Financial Disclosure (TCFD).

⁴² South China Morning Post. <https://www.scmp.com/comment/opinion/article/3238517/china-steps-climate-fight-belt-and-road-green-finance-partnership>

⁴³ Center for Global Development. 2024. <https://www.cgdev.org/publication/china-provider-international-climate-finance>

⁴⁴ Rhodium Group. 2024. <https://rhg.com/research/chinas-external-debt-renegotiations-after-zambia/>

⁴⁵ IMF. 2019. <https://www.imf.org/en/News/Articles/2019/04/25/sp042619-stronger-frameworks-in-the-new-phase-of-belt-and-road>

⁴⁶ United States Institute of Peace. 2023. <https://www.usip.org/publications/2023/10/why-china-rebooting-belt-and-road-initiative>

⁴⁷ BOI. [https://www.boi.go.th/upload/content/Grand%20Strategy%20on%20BRI%20&%20the%20EEC_Dr.%20Kanit%20Sangsubhan%20\(TH\)_5b7f8572e4fab.pdf](https://www.boi.go.th/upload/content/Grand%20Strategy%20on%20BRI%20&%20the%20EEC_Dr.%20Kanit%20Sangsubhan%20(TH)_5b7f8572e4fab.pdf)

⁴⁸ Bangkok Post. <https://www.bangkokpost.com/business/general/1939348/boi-eeec-to-hurry-new-s-curve-perks>

⁴⁹ http://www.lmcchina.org/eng/2024-03/11/content_42720837.html

⁵⁰ EEC. <https://eec.or.th/en/investment/587/>

⁵¹ Asia Society. https://asiasociety.org/sites/default/files/inline-files/2018_GFIFGC_Green-Investment-Principles-for-the-Belt-and-Road_E.pdf

2) Governing Chinese overseas investment

As China's green industry has shifted to overseas markets, the growing number of China's policies that govern this investment is relevant. One of the most significant policies is "Guidelines for Green Development of Overseas Investment and Cooperation" published by China's Ministry of Commerce and Ministry of Ecology and Environment in 2022. The policy requires Chinese companies, on a voluntary basis, to "stick to green development" when investing overseas⁵². This document has identified GIP, as well as United Nations' SDG goals, the Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change, as the "green international rules" that companies should follow.

Specifically, the ministries ask companies to "strictly abide by laws and regulations of host countries" and encourage them to "carry out environmental evaluation and due diligence investigation based on international practices", without specifying exactly which practices. Suggestions are also given on green procurement, waste management, communication with local communities and standard development of industrial parks for companies to "improve the credibility of green development".

The ministries also advocate a proactive role for Chinese companies to work with international organizations to "promote the establishment of green investment rules and standards that are more enforceable, authoritative and effective", indicating a recognition of current weak governance. Overseas Chinese trade groups are also encouraged to formulate green guidelines for investment cooperation in host countries.

Following the release of the guideline, the two ministries in early 2022 published the most specific reference point to date for Chinese companies' overseas investment, which is a follow-up policy titled "Guidelines for Ecological Environment Protection in Overseas Investment Cooperation Construction Projects"⁵³. This policy lists specific recommendations on full life cycle management of investment projects for companies. It urges businesses to promote "green" BRI development, taking measures such as improving communication with affected communities, and abide by international rules or China's domestic environmental regulations in the absence of applicable laws set by host countries.

EV governance in Thailand

1) Thailand's industrial pivot

Up to 2024, the automotive industry is one of Thailand's most prominent industrial success stories, with its origins tracing back to the 1960s when the government transformed automobiles from an imported luxury product into a priority sector, using industrial policy to attract investment and establish domestic production. Known as the Detroit of Asia, Thailand for a long time serves as an important production base for over half of the world's top 100 global automotive and part manufacturers, especially companies from Japan, Germany and the United States.

Today, Thailand remains the top export production base and one of the most important automotive markets in ASEAN, but its light vehicle sales saw sharp declines in 2024 due to an economic downturn and tighter auto loans.⁵⁴ Amid shifting technology trends and growing environmental awareness, Thailand has been trying to transform its legacy auto sector from supplying traditional automotives to supplying EVs. Between 2017 to 2019, the country had facilitated investment projects to produce

⁵² 2021. https://hzs.mofcom.gov.cn/cms_files/oldfile/hzs/202107/20210716144040753.pdf.

⁵³ https://www.mee.gov.cn/ywdt/zbft/202201/t20220111_966727.shtml

⁵⁴ PwC. <https://www.pwc.com/vn/en/publications/2025/asean-automotive-market.pdf>

electric vehicles, particularly hybrid vehicles from Japanese and European manufacturers, totaling 60 billion baht.⁵⁵ This push was accelerated with the appointment of a designated EV board in 2020.

Envisioned under the government of General Prayut Chan-O-Cha, the National Electric Vehicle Policy Committee was created to oversee Thailand's EV development. The committee is chaired by the prime minister and consists of ministers from the Ministries of Industry, Energy and Finance, the Board of Investment (BOI), and the Secretary-General of the National Economic and Social Development Board, along with representatives from the private sector. To move more aggressively to "next generation" technologies, the EV board approved a series of significant EV promotion measures in 2022, known as EV 3.0, offering subsidies for purchasing EVs at a rate of up to 150,000 baht per car, along with various tax discounts to lure foreign manufacturers to set up production bases of EVs and key parts in the country. This subsidy policy was later revised to EV3.5 in 2023, covering the period from 2024 to 2027.

2) Governance in the EEC

Thailand's BOI has been pivotal in drawing Chinese EV manufacturers to Thailand's industrial estates. Under incentive packages of EV 3.0 and EV 3.5, firms receive tax holidays, import-duty reductions, and other benefits in exchange for meeting local production milestones and domestic content requirements. The BOI packages focus primarily on tax breaks for EV production, EV components, and charging infrastructure.

EV companies' manufacturing factories are mostly located in the industrial estates of EEC. The Eastern Special Development Zone Act B.E. 2561, otherwise known as the EEC Act, has granted the region a special legal status characterized by centralized decision-making and permanent administration under the EEC authority, which comprises of a 28-person policy committee chaired by the PM, that includes 14 Ministers, the BOI, the Board of Trade, external experts, as well as a secretary-general and the EEC Office⁵⁶.

To attract more Chinese investors, including the EV companies, the Industrial Estate Authority (IEAT), a state enterprise under Thailand's Ministry of Industry, announced a new initiative named "Two Countries, Twin Parks" in December 2024 that offers tax incentives and emphasizes the need for China to "focus on developing Thai personnel and supply chains to create added economic value and maximize Thailand's benefits".⁵⁷ Led by Industry Minister Akanat Promphan, this MOU was signed between IEAT and eastern China's Anhui province, part of China's Yangtze River Delta economic region and home to EV maker Nio.

⁵⁵ Commission on Economic Development, House of Representatives, Thailand. "Fast & Furious 2024: A Year of Turmoil for Thai Automobiles and New Adjustments to the Future".

⁵⁶ EEC Office. <https://www.eeco.or.th/en/filedownload/1177/de5cda57bf21791a336688c26fe31c1e.pdf>

⁵⁷ IEAT. <https://www.ieat.go.th/en/ieat-news/9131>



Figure 4 A resident passes by an industrial estate in Rayong. (Credit: Ye Yuan)

Soaring investment has driven up land sales in the EEC, with the total new sales and leases of land on industrial estates expected to expand by some 4 - 5% annually over 2025-2027, or by approximately 7,000 rai per year.⁵⁸ This explosive demand has been accompanied by land tensions between land developers and local communities within the EEC, represented in a color-coded classification system to categorize land, using green (agricultural areas), yellow (rural and residential areas), and purple (industrial areas).⁵⁹ Currently, investment enthusiasm from companies hoping to secure suitable land has prompted industrial estates to expand, which, according to interviews with local residents and community leaders, risks encroaching into yellow and green land and affecting local communities' livelihood. Recent disputes about industrial land zoning and a price uptick have prompted IEAT to express concern about the potential impact on foreign investment, while also confirming that up to 40 new industrial projects covering 10,000 rai of land currently under development are in areas not designated as industrial land.⁶⁰

Within the EEC region, IEAT supervises factories inside industrial estates, which must comply with IEAT's standards on land use, pollution control, and occupational safety, while also falling under the jurisdiction of other ministries in joint inspections. Known as a "one-stop center", IEAT employs approximately 600-700 staff nationwide, though only around half are tasked with conducting environmental compliance checks.⁶¹ This modest workforce stands in stark contrast to the scale of its oversight - spanning 5,232 factories⁶² with over 994,000 workers⁶³ as of 2023, not to mention that the number is still increasing. Meanwhile, factories outside industrial estates fall under Factory Act,

⁵⁸ Krungsri Research. <https://www.krungsri.com/en/research/industry/industry-outlook/real-estate/industrial-estate/io/io-industrial-estate-2025-2027>

⁵⁹ EEC Office. <https://eecoss.eeco.or.th/en/land-use/>

⁶⁰ Bangkok Post. 2025. <https://www.bangkokpost.com/business/general/2968036/land-zoning-price-uptick-hit-investment>

⁶¹ Interview with an engineer at the Eastern Seaboard Industrial Estate, June.

⁶² IEAT. https://www.ieat.go.th/web-upload/1x1f0d34e409a13ef56eea54c52a291126/m_document/8247/20395/file_download/e49c930cb132bf06800c8afd55fbc437.pdf

⁶³ Bangkok Post. 2023. <https://www.bangkokpost.com/business/general/2658447/industrial-land-sales-surge-by-182-in-fiscal-2023>

which is enforced by the Department of Industrial Works, with labor-related matters overseen separately.

While the mission statement of the EEC's development is to promote sustainable development, interviews with local communities, independent research and public records suggest a question mark against this claim. Weak checks, lack of clear accountability and shortcomings in civic participation in project development have long plagued communities in Chonburi, Rayong, and Chachoengsao, the three core provinces hosting EEC projects.⁶⁴ According to interviews with community groups, environmentalists and independent researchers, as the EEC develops, there have been records of local communities forced to resettle or being otherwise directly affected due to land grabs,⁶⁵ pollution,⁶⁶ water conflicts,⁶⁷ and loss of livelihoods. Local media and monitoring groups have also documented rushed processes of Environmental Impact Assessment (EIA) and public protests with some projects.⁶⁸



Figure 5 BMW iX and BYD S1 Pro fast charging in Costa Rica. (Credit: Mariordo /CC BY-SA 4.0)

While there are no direct links between affected communities and EV plants – which are mainly located in established industrial estates with relatively clear regulations on resource management – weak legal governance and environmental risks in the region's project development could become a recurring issue as Chinese EV companies deepen local production and supply chain integration. This disconnect is exacerbated by industrial estate operators wielding jurisdiction over land and infrastructure but lacking mandates for participatory governance, worsening community distrust. Meanwhile, communities in Rayong and Chonburi Provinces are already facing imminent environmental and health threats due to unregulated e-waste dumped by illegal waste recyclers,⁶⁹

⁶⁴ International Commission of Jurists. 2023. <https://www.icj.org/thailand-law-on-the-development-of-the-eastern-economic-corridor-should-be-revised-with-a-view-to-addressing-concerns-of-affected-persons/>

⁶⁵ Prachinai. <https://prachinaienglish.com/node/8343>

⁶⁶ Thailand Development Research Institute. <https://tdri.or.th/en/2022/07/how-to-avoid-eeec-waste-time-bomb/>

⁶⁷ Channel News Asia. 2021. <https://www.channelnewsasia.com/climatechange/thailand-water-war-eastern-economic-corridor-1883451>

⁶⁸ Epigram News. 2024. <https://epigramnews.co/politics/behind-eeec/>

⁶⁹ HARDstories. 2025 <https://hardstories.org/stories/environmental-justice/turning-data-into-a-weapon-against-thailands-polluters>

which local groups say are mostly Chinese businesses.⁷⁰ Currently, one third of the country's over 2,500 recycling and industrial waste management plants are located in the EEC. Due to insufficient waste management systems, e-waste in the region was found to be often mixed with solid waste and heavy metals that risk contaminating the soil, and surface and groundwater, posing serious environmental and health risks to nearby residents.⁷¹ While industrial waste is supposed to be managed by waste producers and industrial estates, there is no reliable system to ensure waste disposal is properly completed. When it comes to EV production, disposal of decommissioned lithium batteries and electronics are among the top concerns among communities who are already weary of waste problems.⁷²

3) Labor challenges in the EEC

In just two years since a wave of Chinese EV makers entered Thailand, their rapid expansion has already shaken up the market. On the one hand, Chinese companies are swiftly challenging the dominance of long-established Japanese and Western automakers. On the other, Thai component and parts manufacturers that are key players in the traditional automotive supply chain are struggling to secure orders from these new Chinese entrants, posing existential threats to Thai suppliers of Tier 2 and below.⁷³ Drawing comparisons from Japanese automobile investment decades ago, this situation has led Thai media and the concerned public to question whether Chinese EV investment will genuinely benefit Thailand.⁷⁴

One key public concern is the employment of local workers and local content procurement by foreign companies. This is exemplified by two high-profile visits by committees under the House of Representatives to BYD's Rayong factory in the past three months, including the Committee on National Security, Border Affairs, National Strategy, and National Reform.⁷⁵

⁷⁰ Interviews with local community leaders and MP, April & June 2025.

⁷¹ Journal of Graduate Studies. Valaya Alongkorn Rajabhat University. 2022. <https://so02.tci-thaijo.org/index.php/journalgradvru/article/view/245843>

⁷² Interviews with local community leaders and MP, April & June 2025.

⁷³ Commission on Economic Development, House of Representatives, Thailand. "Fast & Furious 2024: A Year of Turmoil for Thai Automobiles and New Adjustments to the Future".

⁷⁴ The101.World. https://www.the101.world/china-japan-investment-difference/?fbclid=IwY2xjawLa-HRleHRuA2FibQixMABicmlkETFGUINHcWVldGVCRlloRXplAR4Vm7Lkjozm3RIJK4PGhtxVYWIOPn9J95OT54IJ8OuGH1zbSVMXIClYRkY3Yw_aem_040j0qs-BFnGTN3tuJsb3w

⁷⁵ Matichon Online. https://www.matichon.co.th/politics/news_5215582



Figure 6 The exterior of staff dormitory at BYD's Rayong factory. (Credit: Ye Yuan)

On the governance level, the Department of Labor Protection and Welfare is primarily responsible for enforcing labor laws; the IEAT and BOI also plays a role in ensuring that companies meet local hiring requirements. After questioned by the public about employment issues, Narit Therdsteerasukdi, secretary-general of the BOI, told Thai media in June 2025 that "EV manufacturers have so far hired up to 9,600 workers", among whom 85-95% are Thai nationals working as engineers, technicians, and executives at the management level.⁷⁶ He also said Chinese EV manufacturers are now planning to use more locally-made EV parts, of which the proportion currently stands at between 40% and 60%. However, public scrutiny persists around the actual employment criteria, likely relevant to the profound mistrust with local politics, according to interviews with local rights groups.

Interviews with people close to Chinese EV executives suggest that while Chinese companies are willing to recruit more Thai nationals, skill gaps are a major issue affecting their local employment. Currently, almost all of Chinese EV manufacturers have invested in talent cultivation, such as by working with local educational facilities. For example, GAC Aion is supporting its supplier company Chelove to work with Rajamangala University of Technology Isan as part of its talent cultivation strategy.⁷⁷ BYD and Great Wall Motor have also been working with Technic Chonburi and Technic Rayong to co-develop a training curriculum, for which the EEC contributes 50% of the training cost.⁷⁸ To Chinese companies, the urgency to develop a local talent pool stems partly from Thai regulations requiring local employment, and partly from the higher costs of bringing in workers from China, which could involve additional compensation.

As Chinese EV companies gain recognition as global pioneers, public scrutiny of the sector is also intensifying. In response, companies such as BYD and Great Wall Motor (GWM) have publicly emphasized their commitment to sustainability and "creating shared value", both through official websites and in public appearances. This aligns in part with their growing reliance on the green

⁷⁶ Bangkok Post. 2025. <https://www.bangkokpost.com/business/motoring/3045747/boi-targets-faster-ev-growth>.

⁷⁷ Auto life Thailand. <https://autolifethailand.tv/rmuti-chelove-ev-training-center/>.

⁷⁸ Interview with a senior official at the EEC Office, May 2025.

finance market: both companies have tapped significantly into green bonds and ESG-focused funds, according to financial disclosures analyzed via the Bloomberg Terminal.

Yet, there's scant public disclosure on both companies' labor practices and community impacts, even though they are publicly listed, hence subject to Hong Kong, Shenzhen, or Shanghai ESG reporting standards. GWM's ESG data, for example, shows strong peer performance overall but scores zero in the category of "community rights & relations". BYD, meanwhile, received an ESG score of just 2.8 in 2023, below the global median for automakers. Neither company has implemented formal human rights due diligence or articulated clear community engagement strategies.

When it comes to social responsibility, Chinese EV companies tend to work through trusted partners to deliver CSR initiatives, including donations to local communities, but often avoid direct, sustained engagement with the communities in which they operate.

4) Implications for Thailand's Green Transition: Energy and Extractives

One key factor that complicates the sustainability claims of EV investments in Thailand is the country's persistent reliance on gas and coal. In the EEC region, the local power mix remains heavily dominated by fossil fuels. Some companies, such as the joint venture of SAIC Motor-CP and GAC Aion, have invested in rooftop solar to generate renewable power on-site. However, there is a lack of clear policy guidance from authorities to actively encourage or mandate renewable energy procurement.

Currently, BOI's EV incentive packages do not include any requirement for companies to use green power, despite sustainability being a clear theme in the BOI's "green industry" approach. While BOI does incentivize general green projects such as the promotion of CCUS technologies under BOI's broader sustainability scheme,⁷⁹ this is distinct from EV package conditions.



Figure 7 An aerial view of Chonburi's expanding urban landscape and local LNG plants. (Credit: Ye Yuan)

⁷⁹ Thailand Business News. 2021. <https://www.thailand-business-news.com/companies/84892-thailand-boi-approves-measures-to-support-carbon-reduction>

Meanwhile, as electrification accelerates and public concern over the climate crisis deepens, there is growing emphasis on responsible supply chain management in EV production. Globally, there have been greater calls for responsible sourcing in the EV industry, as battery manufacturing requires extracting critical minerals like lithium, cobalt, and nickel that carry significant environmental burdens.⁸⁰

Following media reports of a deadly nickel factory explosion that killed 13 workers in Indonesia, EV producers Ford and Tesla, which procure nickel products from Indonesia, have responded to Bloomberg that they are now working closely with suppliers or investing in more resources to address environmental and safety concerns in local communities.⁸¹ Chinese EV and battery companies, as both global pioneers and the dominant players of the global EV value chain, are now also placed under increasing external pressure by environmentalists to improve social and environmental responsibility in Southeast Asia.⁸²

The extraction of critical minerals used in EV production has profound implications on sustainable development goals (SDGs). As China holds the dominant position in global EV production, its impacts on the extractive industry are also growing. Amid growing pressure from the international community, particularly in terms of its social and environmental record in Africa, China has responded by engaging with transnational extractive governance initiatives (TEGIs), such as the Responsible Minerals Initiative (RMI) and the Responsible Jewelry Council (RJC). In 2016, the China Chamber of Commerce of Metals, Minerals and Chemical Importers and Exporters (CCCME), a quasi-government body affiliated with the Ministry of Commerce, developed a Chinese version of transparency guidelines, and established with the Organization for Economic Co-operation and Development (OECD) the Responsible Cobalt Initiative (RCI), a TEGI aimed at sustainable global cobalt supply. Though studies have found that RCI, among other norm-taking initiatives taken by Chinese domestic players, shows a “thinner version” of the global transparency norm, with limited obligations to disclose information to the public, this has indicated China’s proactive role as a norm-maker in global extractives governance.⁸³

Meanwhile, leading Chinese companies in the global EV value chain are also seeking legitimacy by working with external audiences, prompted by strong political and private sector desire to rebrand China on the global stage. Most recently, CATL, the leading battery maker, announced a partnership with the Ellen MacArthur Foundation during London Climate Week that it will push for a “circular battery economy” and reduce extraction of raw materials for battery production.

⁸⁰ Amnesty International. 2024. <https://www.amnesty.org/en/latest/news/2024/10/human-rights-ranking-electric-vehicle-industry/>

⁸¹ Bloomberg Businessweek. 2024. <https://www.bloomberg.com/features/2024-indonesia-sulawesi-nickel-fire/>

⁸² Strait Times. 2025. <https://www.straitstimes.com/asia/se-asia/environment-fears-over-7-65b-indonesia-ev-battery-project-ngos>

⁸³ Hyeyoon Park, Global Norm-Maker as China’s New Brand? An Analysis of the Responsible Cobalt Initiative, *The Chinese Journal of International Politics*, Volume 16, Issue 2, Summer 2023, Pages 129–156, <https://doi.org/10.1093/cjip/poad002>

Ways forward

This study has examined the governance frameworks and policy dynamics shaping the flow of Chinese EV investment into Thailand. Driven by China's industrial policy and state-led efforts to transition toward a green economy, Chinese EV makers are increasingly influencing the global automotive landscape. The Belt and Road Initiative (BRI) has served as a key vehicle for exporting China's green technologies, including electric vehicles, yet it continues to lack strong social safeguards and climate conditionality to ensure that this transition is equitable for host countries.

Thailand, as a major recipient of Chinese EV investment, is pursuing its own green industrial transformation. However, persistent gaps in regulatory oversight, environmental protections, and supply chain integration threaten to undermine the long-term sustainability and inclusiveness of this effort. The BOI should also work with Chinese EV companies to **address issues of public concern**, such as disclosing the details of jobs created and local employment. Meanwhile, **weak penalties** set by the current Factory Act in Thailand and **lack of stringent Environmental Impact Assessment** in the country's Eastern Economic Corridor (EEC) have resulted in unregulated EV-related e-waste affecting local communities. Greater accountability of waste management should involve **more inclusive governance with community participation**.

Meanwhile, as China positions itself as a global green technology leader through its "New Three" exports and BRI investments, countries like Thailand have become central to its overseas EV strategy. Thailand's own ambition to become a regional EV hub reflects shared climate goals, but, without deliberate coordination and stronger accountability mechanisms, there is a risk that the transition will replicate old industrial hierarchies under a green veneer.

For the green transition to be just and sustainable, policymakers must ensure that foreign investment aligns not only with carbon targets, but also with inclusive development and environmental integrity. Thai regulators need to **accelerate the development of formal regulations** governing the disposal and recycling of decommissioned EV batteries, which will start to hit retirement age in seven to 10 years after being installed in vehicles. In addition to regulations, there also needs to be targeted policy to support credible battery recyclers and encourage healthy development of the industry.

Amid the trade restrictions amid geopolitical risks, it is also recommended that Thailand's Board of Investment (BOI) **set clear definitions for local content procurement** to ensure authentic local gains and address accusations of trade rerouting⁸⁴.

Meanwhile, due to deep lock-in with gas and coal in Thailand's energy system, increased electrification in Thailand's transport sector with the current EV push still relies on fossil fuels, risking damage to its green claims. This could be addressed through targeted support for production-intensive factories and power hungry EVs to **access clean energy and green power**.

This analysis offers a starting point for further research into the social, financial, and environmental policy gaps shaping sustainable development in Thailand with the growing impact of Chinese investment. In addition, with battery recycling becoming a pressing concern, future research could examine how the Thai government might use policies and regulations to guide Chinese EV companies in developing battery recycling systems in Thailand. Such research could also consider how transition finance can more effectively contribute to the healthy development of the industry.

⁸⁴ Bloomberg. 2025 <https://www.bloomberg.com/news/articles/2025-06-18/nomura-says-us-to-set-high-asia-tariffs-to-stop-china-rerouting>