

RECONNECT CHINA

POLICY BRIEF 13

— August 2024 —

EU's technological dependencies towards China: the case of EV batteries

Francesca Maremonti

In recent years, the European Union (EU) has increasingly relied on China for critical technologies, pivotal for its digital and green transition. As the market of electric vehicles (EV) grows rapidly, demand for critical inputs has also soared, including lithium-ion batteries. China holds a dominant position along the EV battery supply chain, which has resulted in high exports to Europe and growing integration with the EU market. The EU finds itself in a delicate position, faced with the challenge to disentangle from dependencies on Chinese critical technologies, while preserving foreign investments in critical sectors and boosting local manufacturing capacity. Several measures have been introduced at the EU level, but a more all-round approach and longer-term industrial policies will be needed to scale up the EU's de-risking capacity.

Policy Recommendations:

- **Prioritise innovation to reduce current dependencies**
- **Promote *green-er* technologies**
- **Diversify the most critical gaps of the supply chain**
- **Pursue a cohesive and shared approach across EU Member States**

Introduction

For decades the European Union (EU) has profited from China being a manufactural hub and a source of cheap labour, overlooking its potential to make ground-breaking innovation. Today this perspective has been reversed, as Beijing strives for leadership in a range of critical technologies. Europe's dependency on Chinese technologies has increased over the years, and in 2022, 38% of the EU's high-tech imports from non-EU countries came from China.¹ In recent years the EU has turned to China for critical technologies pivotal for its green transition, while Chinese industrial capacity was scaling up in sectors defined by Beijing's government as the "new three"—lithium-ion batteries, electric vehicles (EV) and solar panels.² China has therefore secured a central position in green technology supply chains and expanded its economic footprint, with Chinese companies venturing abroad.

The European Union – learning the lesson from the Taiwanese "chip crunch" during the Covid-19 pandemic and from of energy supply shortages following the Russian invasion of Ukraine – has entered a new phase towards securing its critical supply chains and achieving greater economic

resilience. The EU's de-risking strategy, introduced by European Commission President Ursula von der Leyen in March 2023, stresses the importance of reducing overreliance on China for critical materials crucial for the green and digital transition.³ If overreliance of critical technologies from a single country exposes supply chains to risk of disruptions, the risk appears greater when the country – China – has been defined by the EU as an “economic competitor and a systemic rival”.⁴ The EU's mounting concerns over China's dominance of the climate technology supply chains has been reiterated in the 2023 Economic Security Strategy.⁵ Europe is currently trying to reduce dependency over Chinese green technologies, while applying closer scrutiny to Chinese companies' footprint in Europe and boosting competitiveness of its indigenous industry.

This scenario applies to the sector of electric vehicles, which will become crucial for the European automobile industry and may lead to a flashpoint for EU-China relations in the years to come. The EV industry represents a major growth area for Europe's key carmakers, who have seen shares of EVs sales rising by 20% annually in recent years.⁶ EU car manufacturers rely on Chinese suppliers for several critical components of EVs, including automobile chips,⁷ permanent magnets for motors⁸, and lithium-ion batteries among other inputs. This policy brief focuses on the latter to assess the EU's capabilities to de-risk along the lithium-ion battery supply chain. China's industrial capacity along all segments of the EV battery supply chain is analysed, as well as the economic footprint of Chinese battery firms into Europe. As this paradigm case shows the challenges of de-risking in practice, the policy brief also assesses the EU's capacity to secure the EV battery critical supply chain and reduce dependency from China.

The EV battery supply chain

Global demand for EV batteries has skyrocketed over the years, increasing by over 700% from 2015 to 2021.⁹ Although new types of batteries are being developed (like sodium-ion batteries), lithium-ion batteries are the most widespread type used to power EVs to this day. The production of lithium-ion batteries – a critical component of EVs – thus represents a competitive advantage, likely to become a major market-shaping tool in the upcoming years.

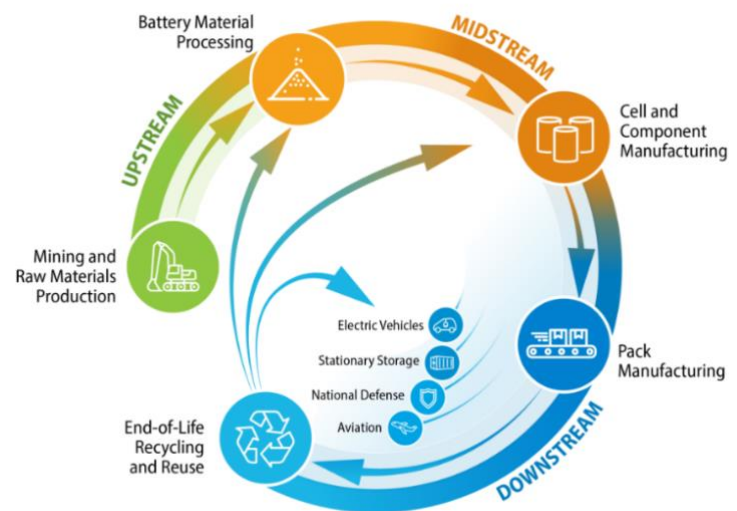


Figure 1: National Renewable Energy Laboratory <https://www.nrel.gov/transportation/li-ion-battery-supply-chain-database.html>

China's heft along the supply chain

China's manufacturing advantage in the whole EV sector has built upon many variables, including long-standing government industrial policies, partnerships with other countries, global market trends, as well as hotly debated state subsidies for Chinese companies.¹⁰ EV battery makers have also benefitted from the government's financial support. Government subsidies to the leading company CATL, for example, increased by 100-fold over a five-year time.¹¹

Today China occupies a strategic position at every segment of the lithium-ion battery value chain. In

¹ From \$76.7 million in 2018 to \$809.2 million in 2023.

the *upstream* portion, China dominates access to the critical raw materials (CRM) needed for battery production, notably lithium, nickel, cobalt, manganese and graphite.¹² China is the fifth country in the world for access to lithium – with reserves for 5.1M tons – and ranks third worldwide for mining capacity.¹³ To ensure greater access to critical raw materials China is taking its mining and processing capacity beyond national borders. Chinese battery giants CATL and BYD have invested in several lithium-rich countries in Africa¹⁴ and in South America, including Bolivia, the country with the world's largest – though mostly unexploited – lithium reserves.¹⁵

If access to critical minerals is widespread globally, the successive stages of the EV battery supply chain are concentrated in a handful of countries. China consolidates its strategic position at the *midstream* level, dominating the processing and refining of raw materials and the sector of battery assembly. Over 50% of the world's lithium, cobalt, and graphite¹⁶ are processed and refined in China, that is complementing its domestic capacity by turning to other countries. For nickel-production, for example, China has partnered up with Indonesia, the world's largest nickel producer, in need of foreign infrastructural investments.¹⁷ Although the refinery process of the nickel extracted from Indonesian soil has raised concerns over carbon emissions released by coal-fired smelters, the partnership with Chinese companies has allowed Indonesia and China to shrink processing costs, resulting in a drop of the nickel price by 45% in 2023.¹⁸

Battery manufacturing is largely dominated by East Asian countries, with China taking the lead with the largest market share and South Korean and Japanese companies left behind at 9% and 3% of shares respectively.¹⁹ China is home to 90% of battery component production (anodes and cathodes) and 75% of the world's battery cell manufacturing.²⁰ As a major producer of EV batteries, China is developing a solid position even

at the *downstream* end of the supply chain, with the Beijing government designing extensive policies to strengthen batteries' recycling and the end-of-life phase. In 2022 China accounted for about half of the global recycling industry,²¹ which the Chinese government is trying to boost further through financial support for companies adhering to non-binding recovery targets (85% for lithium).²² Overall, China produces two-thirds²³ of all lithium-ion batteries at the cheapest price available on the global market,²⁴ a fraction of the price of batteries made in Europe (40% cheaper²⁵). The strategic advantage along the lithium-ion battery supply chain has enabled Chinese manufacturers to scale up their production capacity and move ahead of their international competitors.

China's growing integration with the EU market

The scale of the competitive advantage of Chinese manufacturers in the EV battery sector has impacted the EU market, creating sticky dependencies of the European EV industry from Chinese batteries, as well as further entanglement between Chinese and European firms. As the market's demand for EVs grows, European carmakers have profited from the competitiveness of lithium-ion batteries produced in China. Imports from the EU spiked over the past few years, from \$3.1 bn in 2021 to \$24.7 bn in 2023.²⁶ In 2023, batteries exported from China to Germany and the Netherlands amounted to \$3.7 bn, surpassing the total of exports to the US (\$3.1 bn).²⁷ Although an advantageous deal, this exposes European carmakers to higher transportation costs and, most importantly, to potential supply chain disruptions and overdependency on Chinese producers.

Besides increased exports pouring into the EU, China's overcapacity and increasingly crowded domestic EV market has pushed Chinese firms to go overseas, eyeing up opportunities in the European growing EV market.²⁸ Europe has been the recipient of large investments from Chinese battery manufacturers, an exception to the current trend of Chinese Foreign Direct Investments (FDI)

in Europe. While Chinese FDI into Europe has contracted over the past decade – reaching the lowest level in fifteen years in 2023 – the share of Chinese greenfield investments has been soaring, accounting for 78% of total investments to Europe^{II} in 2023.²⁹ Among these, EV-driven investments represent the largest portion of China's FDI, including Chinese battery giants CATL, AESC, and Huayou Cobalt venturing in Europe with investments in battery plants in Germany and France and, most importantly, in Hungary, the bulk of Chinese financial outreach.³⁰ As Chinese FDIs are narrowly concentrated in some countries in the region, some European countries are exposed to a greater degree of Chinese economic leverage. Hence the growing ties between European and Chinese manufacturers have brought opportunities to spur local industry while putting the EU's de-risking strategy to the test.

EU's policy responses and de-risking capabilities

The EU finds itself in a delicate position, faced with the challenge to disentangle from dependencies from Chinese critical technologies, while preserving foreign investments in strategic industrial sectors and boosting local manufacturing capacity. All these priorities are inscribed into the bigger picture of the EU's ambitious green transition and decarbonization goals, which make green technologies all the more important. In recent years, several policy measures have been advanced by the EU to cement its de-risking strategy and create more resilience along the supply chains of critical technologies, including lithium-ion batteries. However, significant challenges remain.

Economic security toolbox

The EU is addressing its de-risking strategy introducing trade tools to protect the European market. As of August 2024, two main measures designed by the EU and in the phase of drafting and

negotiation could impact the degree of integration between China and Europe in the EV battery industry. In January 2024, the European Commission has proposed a "Revision of the foreign direct investment (FDI) screening regulation" to advance European economic security.³¹ Greenfield investments could be introduced to the screening regimes of Member States (MS), but some potential discrepancies are already looming over. Some EU countries are more entangled and dependent on Chinese FDIs (especially Hungary), which may result in diverging stands on screening mechanisms over Chinese greenfield investments, due to concerns over competitiveness of their local industry.

Governments across Europe have adopted diverging postures even on the second measure the EU has recently adopted, namely the provisional countervailing duty on imports of new EVs made in China.³² The provisional tariffs, ranging from 17% to almost 38%,^{III} aim to redress the market distortion created by the imports of subsidised EVs made in China.³³ Some European governments, like Germany, have adopted a cautious position towards these developments as of July 2024, whereas others like France have endorsed the newly introduced duties.³⁴ Different reactions mirror the varying China-exposure of their respective auto industries. While France has less at stake, German carmakers exported one third of their cars to China in 2023³⁵ and could be dangerously exposed to the risk of Chinese counter-tariffs.³⁶ The anti-subsidy tariffs are undergoing a negotiation phase at the time of writing (August 2024) and should become definitive by the end of October 2024, while the Commission has declared that other green technologies will be investigated, opening up a path towards closer scrutiny across the board.³⁷ These measures enacted in tandem can redefine the degree of integration between the EU and the Chinese EV market, at a particularly critical time.

^{II} EU + UK

^{III} BYD: 17.4%; Geely: 19.9%; SAIC: 37.6%

The US has already introduced stringent measures to boost its own EV industry through the 2022 Inflation Reduction Act (IRA), to the detriment of foreign carmakers exporting to the US, including European ones.³⁸ In a context of increasing political volatility – with the upcoming US presidential elections and geopolitical tensions with China looming over – the EU needs to define a more all-round approach to de-risk the EV supply chain, while avoiding being caught up in political and economic frictions with major players. For now, such measures are not substitutive of long-term industrial policies to grow a more resilient regional industrial capacity and the risk of exposing European companies to Chinese retaliations without a back-up plan exists.

De-risking in practice

Over the years, the EU has designed several supply security measures, which apply to the lithium-ion battery sector, along various steps of the supply chain. In 2017, the EU Commission launched the European Battery Alliance (EBA), bringing together national authorities, the private sector, and the scientific community, to implement a strategic action plan for the EV battery supply chain.³⁹ With the financial support of the European Investment Bank, the EU Commission approved almost €3 bn for research and innovation projects along the battery value chain, expected to be delivered by 2028.⁴⁰ In 2023, the EU proposed the Critical Raw Material Act (CRMA)^{IV} in parallel to the Net Zero Industry Act (NZIA), aiming “to scale up the EU manufacture of key carbon neutral [...] technologies to ensure secure, sustainable and competitive supply chains”.⁴¹ The NZIA introduces measures to strengthen Europe’s supply diversification and reduce Europe’s reliance on China in the green technology sector, with a target of boosting European manufacturing capacity and

meeting at least 40% of the EU’s annual needs by 2030. The CRMA sets benchmarks for European capacity to be met by the end of the decade^V while stressing the need to diversify supply chains by enhancing closer cooperation with third countries.⁴² The EU has indeed deployed its foreign policy tools and forged strategic partnerships for a more resilient green industry. Adding up to an already-long list of Memoranda of Understanding (MoU),^{VI} in July 2024 the EU has sealed an agreement with Serbia, to “enhance the development of value chains for raw materials, batteries and EVs”.⁴³ Nevertheless, whether these non-binding agreements will cement into supply deals is yet to be seen.

Despite these policy measures, the EU’s manufacturing capacity in the EV sector is still far from meeting these goals. Europe has significant lithium reserves, especially in the UK, France and Germany^{VII},⁴⁴ which is the country in the EU with the biggest lithium reserves (2.7M tons).⁴⁵ This looks promising to meet EU domestic supply demands by 2030. However, according to a study by “Transport & Environment”, the majority of these mining and processing projects are still in early stages of development and subjected to severe delays.⁴⁶

Moving upwards along the lithium-ion battery supply chain, European firms are lagging behind their competitors in the manufacturing of battery components, especially cathodes. The lack of projects being developed in this sector constitutes the most critical gap along the EU’s EV battery supply chain, a gap currently filled by China, which notably hosts the vast majority of production capacity in this segment. Only few EU companies have made progress in this sector, namely Sweden’s Northvolt, Poland’s Umicore and German BASF.⁴⁷ The European sector of cell manufacturing

^{IV} Previous measures: EU Raw Materials Initiative in 2008; EU New Industrial Strategy; EU CRM Action Plan in 2020.

^V Local mining: 10%, processing: 40%, and recycling: 25% of EU consumption.

^{VI} MoUs with Canada (2021), Namibia (2022), Argentina (2023), Chile (2023), and the DRC (2023).

^{VII} UK (e.g. Tees Valley Lithium and Green Lithium), Germany (e.g. Vulcan Energy Resources and Livista Energy) and France (e.g. Lithium de France and Imerys).

looks more promising than that of components, although many battery plants and gigafactories across the EU are at risk of either being delayed or cancelled. Northvolt's gigafactory in Germany and France's Vekor benefitted from financial packages from their respective governments, with other companies across the continent scaling down their operations.

The EU Battery Regulation is trying to spur recycling by introducing measures like the mandatory lithium recovery target (50% by the end of 2027 and 80% by the end of 2031).⁴⁸ Battery recycling facilities seem to hold a better chance to measure up to their competitors, with recycling operations being developed by European companies like Northvolt and Umicore.⁴⁹ Some European firms are also making progress in the field of innovation. Northvolt has developed sodium-ion batteries, which – according to the Swedish producer – could be used to power two-wheeled EVs in the future.⁵⁰ Relying on sodium, a water component, this “breakthrough” innovation would free up producers from dependency on critical raw materials.

Overall, European manufacturing capacity in the lithium-ion batteries holds the potential to scale up in the mining, processing, and recycling sectors. However, the *midstream* sections of the battery supply chains look less promising, leaving a gap on the value chain likely to result in sticky dependencies on their Chinese counterparts. EU supply policies to create a more resilient supply chain for green tech and for EV battery have introduced significant novelties, but need to be coupled with a long-term industrial strategy to enhance the development of indigenous battery manufacturing capacity.

Policy recommendations

- **Prioritise innovation to reduce current dependencies**

Looking ahead, to reduce dependency on critical raw materials for EV battery production, the EU should incentivise: [1] recycling rates of end-of-life batteries as a way to decrease the need for primary lithium supply; [2] investments in innovation to develop alternative EV batteries to the current China-dominated lithium-ion battery market. Sodium-ion batteries may represent a valuable alternative in the future and are not dependent on CRM. Further growth in this sector shall place EU battery makers in a more competitive position in this nascent market.

- **Promote *green-er* technologies**
As for the case of Indonesian nickel, some processes to produce green technology adopted by Chinese firms still have a high carbon footprint on the environment. To comply with EU standards, some European firms have already backed out of nickel-deals with Indonesia. The EU should apply closer scrutiny to the environmental footprint of EV batteries imported from China and introduce subsidies for European companies choosing to import *green-er* technologies at higher costs.
- **Diversify the most critical gaps of the supply chain**
The European supply chain for EV battery has a long way ahead towards reducing dependency from its Chinese counterpart and the EU should secure more solid outcomes with its climate diplomacy efforts. Australia and South Korea are key players along the lithium-ion battery supply chain, at the *upstream* and *midstream* level respectively. The several MoUs Europe has secured are a good start, but to ensure a more resilient supply chain, the EU should pursue further collaboration with such like-minded countries, especially

for the most vulnerable sectors of EU's industrial capacity.

- **Pursue a cohesive and shared approach across EU Member States**

EU countries show different levels of integration with Chinese firms, which is reflected in fragmented approaches towards Chinese greenfield investments. The EU economic security toolbox offers an opportunity to avoid cutting economic ties with Chinese investors, while protecting indigenous industry. EU's economic security measures should set benchmarks for Chinese greenfield investments to create local value, adding conditionalities to Chinese companies' financial outreach. This would preserve the competitiveness of countries where Chinese greenfield investment concentrate, while allowing MSs to introduce measures to screen Chinese investments. Overall, when

introducing trade defence tools, the EU should avoid fragmentation of approaches and work towards increasing convergence across screening mechanisms designed by MSs.

Francesca Maremonti is a Researcher for the Multilateralism and Global Governance team, at the Istituto Affari Internazionali (IAI) in Rome. Her research work covers the foreign policy of the People's Republic of China, digital governance and economic security.

ENDNOTES

¹ Eurostat (2023). *EU trade in high-tech products up in 2022*. Available at: <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20230510-2>

² 万月英(2024). *中国'新三样'海外展形象*. China Daily. Available at: <https://china.chinadaily.com.cn/a/202404/30/WS66305066a3109f7860ddbc12.html>

³ European Commission (2023). *Speech by President von der Leyen on EU-China relations to the Mercator Institute for China Studies and the European Policy Centre*. European Commission. Available at: https://ec.europa.eu/commission/presscorner/detail/en/speech_23_2063

⁴ European Commission (2023). *EU-China Relations*. Available at: https://www.eeas.europa.eu/sites/default/files/documents/2023/EU-China_Factsheet_Dec2023_02.pdf

⁵ European Commission (2023). Joint communication to the European Parliament, the European Council and the Council on "European Economic Strategy". Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023JC0020>

⁶ Fitch Ratings (2024). *European EV Supply Chains Continue to Depend on Batteries from China*. Available at: <https://www.fitchratings.com/research/corporate-finance/european-ev-supply-chains-continue-to-depend-on-batteries-from-china-23-10-2023>

⁷ Lee, J. and Kleinhans, J.-P. (2024). *Automotive Chips: a European Chokepoint?* Digital Power China. Available at: https://jpkleinhans.de/home/DPC2024_Auto_Chapter.pdf

⁸ Gauß, R. et al. (2021). *A European Call for Action. A report by the Rare Earth Magnets and Motors Cluster of the European Raw Materials Alliance*. Berlin: Rare Earth Magnets and Motors Cluster of the European Raw Materials Alliance. Available at: https://eit.europa.eu/sites/default/files/2021_09-24_ree_cluster_report2.pdf

⁹ International Energy Agency (2022). *Global Supply Chains of EV Batteries*. Available at: <https://iea.blob.core.windows.net/assets/4eb8c252-76b1-4710-8f5e-867e751c8dda/GlobalSupplyChainsofEVBatteries.pdf>

¹⁰ Kennedy, S. (2024). *The Chinese EV Dilemma: Subsidized yet Striking*. Center for Strategic and International Studies CSIS. Available at: <https://www.csis.org/blogs/trustee-china-hand/chinese-ev-dilemma-subsidized-yet-striking>

¹¹ Kennedy, S. (2024). *The Chinese EV Dilemma: Subsidized yet Striking*. Center for Strategic and International Studies CSIS. Available at: <https://www.csis.org/blogs/trustee-china-hand/chinese-ev-dilemma-subsidized-yet-striking>

¹² Burke, R. et al. *Electric Avenues: Localizing Electric Vehicle Supply Chains*. Center for Strategic and International Studies CSIS. Available at: <https://features.csis.org/electric-avenues-localizing-electric-vehicle-supply-chains/>

¹³ Burke, R. et al. *Electric Avenues: Localizing Electric Vehicle Supply Chains*. Center for Strategic and International Studies CSIS. Available at: <https://features.csis.org/electric-avenues-localizing-electric-vehicle-supply-chains/>

¹⁴ Chen, A. (2022). *Chinese electric-vehicle maker BYD to buy 6 lithium mines in Africa*. S&P Global. Available at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/chinese-electric-vehicle-maker-byd-to-buy-6-lithium-mines-in-africa-8211-the-paper-70602057>

¹⁵ Burke, R. et al. *Electric Avenues: Localizing Electric Vehicle Supply Chains*. Center for Strategic and International Studies CSIS. Available at: <https://features.csis.org/electric-avenues-localizing-electric-vehicle-supply-chains/>

¹⁶ Carreon, A. (2023). *The EV Battery Supply Chain Explained*. RMI. Available at: <https://rmi.org/the-ev-battery-supply-chain-explained/>

¹⁷ Tritto, A. (2023). *How Indonesia Used Chinese Industrial Investments to Turn Nickel into the New Gold*. Carnegie Endowment. Available at: <https://carnegieendowment.org/research/2023/04/how-indonesia-used-chinese-industrial-investments-to-turn-nickel-into-the-new-gold?lang=en>

¹⁸ Mining.com (2024). *Indonesia and China killed the nickel market*. Available at: <https://www.mining.com/web/indonesia-and-china-killed-the-nickel-market/>

-
- ¹⁹ IEA (2024). *Trends in electric vehicle batteries – Global EV Outlook 2024 – Analysis*. Available at: <https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-vehicle-batteries>
- ²⁰ De Meo, L. (2024). *Letter to Europe. Advocacy for a sustainable, inclusive and competitive automotive industry*. Renault Group. Available at: https://www.renaultgroup.com/wp-content/uploads/2024/03/lettreal europe_digital-uk-1.pdf
- ²¹ International Energy Agency (2022). *Global Supply Chains of EV Batteries*. Available at: <https://iea.blob.core.windows.net/assets/4eb8c252-76b1-4710-8f5e-867e751c8dda/GlobalSupplyChainsofEVBatteries.pdf>
- ²² Bille, B. (2024). *Battery Minerals paper series Increasing Lithium Supply Security for Europe's Growing Battery Industry: Recommendations for a Resilient Supply Chain*. The Hague Centre for Strategic Studies. Available at: <https://hcss.nl/wp-content/uploads/2024/01/Increasing-Lithium-Supply-Security-HCSS-2024.pdf>
- ²³ International Energy Agency (2023). *Trends in batteries – Global EV Outlook 2023 – Analysis*. Available at: <https://www.iea.org/reports/global-ev-outlook-2023/trends-in-batteries>
- ²⁴ BloombergNEF (2024). *Lithium-Ion Batteries are set to Face Competition from Novel Tech for Long-Duration Storage*. Bloomberg. Available at: <https://about.bnef.com/blog/lithium-ion-batteries-are-set-to-face-competition-from-novel-tech-for-long-duration-storage-bloombergnef-research/>
- ²⁵ Gehrke, T. and Medunic, F. (2023). *High-voltage trade: How Europe should fight the electric vehicle wars*. European Council on Foreign Relations ECFR. Available at: <https://ecfr.eu/article/high-voltage-trade-how-europe-should-fight-the-electric-vehicle-wars/>
- ²⁶ Webster, J. (2024). *Without tariffs, the EU faces a flood of Chinese imports of the 'new three'*. Atlantic Council. Available at: <https://www.atlanticcouncil.org/blogs/energysource/without-tariffs-the-eu-faces-a-flood-of-chinese-imports-of-the-new-three/>
- ²⁷ Niu, Y. (2023). *How can China address its EV battery-recycling challenge?* Dialogue Earth. Available at: <https://dialogue.earth/en/pollution/how-can-china-address-its-ev-battery-recycling-challenge/>
- ²⁸ Gregor, S. et al. (2024). *Pole Position: Chinese EV Investments Boom Amid Growing Political Backlash*. Rhodium Group. Available at: <https://rhg.com/research/pole-position-chinese-ev-investments-boom-amid-growing-political-backlash/>
- ²⁹ Kratz, A. et al. (2024). *Dwindling investments become more concentrated - Chinese FDI in Europe: 2023 Update*. Merics. Available at: <https://merics.org/en/report/dwindling-investments-become-more-concentrated-chinese-fdi-europe-2023-update#:~:text=Europe%20and%20China.->
- ³⁰ Kratz, A. et al. (2024). *Dwindling investments become more concentrated - Chinese FDI in Europe: 2023 Update*. Merics. Available at: <https://merics.org/en/report/dwindling-investments-become-more-concentrated-chinese-fdi-europe-2023-update#:~:text=Europe%20and%20China.->
- ³¹ European Parliament (2024). *Revision of the foreign direct investment (FDI) screening regulation*. Available at: <https://www.europarl.europa.eu/legislative-train/theme-an-economy-that-works-for-people/file-revision-of-the-fdi-screening-regulation>

-
- ³² European Commission (2024). *Commission Implementing Regulation (EU) 2024/1866 of 3 July 2024 imposing a provisional countervailing duty on imports of new battery electric vehicles designed for the transport of persons originating in the People's Republic of China*. Official Journal of the European Union. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401866
- ³³ European Commission (2024). *Commission imposes provisional countervailing duties on imports of battery electric vehicles from China while discussions with China continue*. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3630
- ³⁴ Blenkinsop, P. (2024) *EU countries divided on Chinese EV tariffs in vote, sources say*. Reuters. Available at: <https://www.reuters.com/business/autos-transportation/eu-members-give-mixed-view-vote-chinese-ev-tariffs-sources-say-2024-07-16/#:~:text=A%20dozen%20EU%20members%20voted,highest%20profile%20trade%20case%20yet.>
- ³⁵ Zhang, Z. (2024). *EU levying extra tariffs to harm global auto industry, triggering tiffs-for-tatts from China: German business group*. Global Times. Available at: <https://www.globaltimes.cn/page/202406/1314266.shtml>
- ³⁶ Posaner, J. and W.P. and Preussen, W.P. (2023). *Why Berlin will slam the brakes on France's car war with China*. POLITICO. Available at: <https://www.politico.eu/article/volkswagen-mercedes-bmw-berlin-will-slam-the-brakes-on-frances-car-war-with-china/>
- ³⁷ European Commission (2024). *Trade defence investigations*. European Commission. Available at: <https://tron.trade.ec.europa.eu/investigations/case-view?caseId=2684>
- ³⁸ U.S. Department of the treasury (2024). *Inflation Reduction Act*. Available at: <https://home.treasury.gov/policy-issues/inflation-reduction-act>
- ³⁹ European Commission. *European Battery Alliance - European Commission*. Available at: https://single-market-economy.ec.europa.eu/industry/industrial-alliances/european-battery-alliance_en
- ⁴⁰ European Commission (2021). *State aid: Commission approves €2.9 billion public support by twelve Member States for a second pan-European research and innovation project along the entire battery value chain*. Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_21_226
- ⁴¹ European Commission (2023). *Critical Raw Materials: ensuring secure and sustainable supply chains for EU's green and digital future*. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661
- ⁴² European Parliament and the Council of the European Union (2024). *Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020*. Official Journal of the European Union. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401252
- ⁴³ Directorate-General for Neighbourhood and Enlargement Negotiations (2024). *EU and Serbia sign strategic partnership on sustainable raw materials, battery value chains and electric vehicles*. European Commission. Available at: https://neighbourhood-enlargement.ec.europa.eu/news/eu-and-serbia-sign-strategic-partnership-sustainable-raw-materials-battery-value-chains-and-electric-2024-07-19_en

-
- ⁴⁴ Bille, B. (2024). *Battery Minerals paper series Increasing Lithium Supply Security for Europe's Growing Battery Industry: Recommendations for a Resilient Supply Chain*. The Hague Centre for Strategic Studies. Available at: <https://hcss.nl/wp-content/uploads/2024/01/Increasing-Lithium-Supply-Security-HCSS-2024.pdf>
- ⁴⁵ Burke, R. et al. *Electric Avenues: Localizing Electric Vehicle Supply Chains*. Center for Strategic and International Studies CSIS. Available at: <https://features.csis.org/electric-avenues-localizing-electric-vehicle-supply-chains/>
- ⁴⁶ Transport & Environment (2024). *An industrial blueprint for batteries in Europe How Europe can successfully build a sustainable battery value chain*. European Federation for Transport and Environment AISBL. Available at: <https://www.transportenvironment.org/uploads/files/An-industrial-blueprint-for-batteries-in-Europe-How-Europe-can-successfully-build-a-sustainable-battery-value-chain.pdf>
- ⁴⁷ Transport & Environment (2024). *An industrial blueprint for batteries in Europe How Europe can successfully build a sustainable battery value chain*. European Federation for Transport and Environment AISBL. Available at: <https://www.transportenvironment.org/uploads/files/An-industrial-blueprint-for-batteries-in-Europe-How-Europe-can-successfully-build-a-sustainable-battery-value-chain.pdf>
- ⁴⁸ European Commission (2023). *Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC*. Official Journal of the European Union. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1542>
- ⁴⁹ Bille, B. (2024). *Battery Minerals paper series Increasing Lithium Supply Security for Europe's Growing Battery Industry: Recommendations for a Resilient Supply Chain*. The Hague Centre for Strategic Studies. Available at: <https://hcss.nl/wp-content/uploads/2024/01/Increasing-Lithium-Supply-Security-HCSS-2024.pdf>
- ⁵⁰ Lawson, A. (2023). *'Breakthrough battery' from Sweden may cut dependency on China*. The Guardian. Available at: <https://www.theguardian.com/business/2023/nov/21/breakthrough-battery-from-sweden-may-cut-dependency-on-china>

The Author would like to acknowledge Dr. B. Gallelli and Dr. A. Insisa for their thorough support, as well as the experts from IAI and from the Reconnect China consortium, who have taken the time to provide their valuable insights.



The opinions expressed in this Policy Brief are those of the author(s) alone, and they do not necessarily reflect the views of the European Union. *All rights reserved.*