

Transatlantic Clean Investment Monitor: A Perspective on Electric Vehicles

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This note is the fourth in a series of briefings comparing clean technology deployment and manufacturing trends in Europe and the United States as part of a collaboration between Bruegel and Rhodium Group.

Electric vehicles (EVs) have grown from niche technology to mainstream industry in the space of a little over a decade. Their deployment is crucial for decarbonization and is transforming the automotive industry, which represents a cornerstone of the manufacturing sector in both the US and Europe. Unlike China, Europe and the US are particularly exposed to the EV transition, with whole communities built on the back of 20th-century industrial competitiveness in internal combustion engine (ICE) technology.

The roll-out of EVs is growing in both regions, driven by policy incentives, falling costs, and shifting consumer preferences. To meet this demand, companies are investing billions of dollars across the EV value chain. And there is significant global competition, namely booming Chinese manufacturing capacity, that policymakers and companies alike are grappling with.

This note—the fourth in a joint series between Bruegel and Rhodium Group on clean technology deployment and manufacturing trends in Europe and the US—aims to make sense of this rapidly shifting landscape. Based on an assessment of EV uptake in key regions—one in ten new vehicles in the US are electric compared to one in five in the EU, and one in two in China—we track on-the-ground EV manufacturing investments in the EU and US at the project level to provide a transatlantic perspective on the scale and pace of regional investment in EV manufacturing and what that means for respective EV production capacities. This real-time data provides an important perspective for assessing how invested the

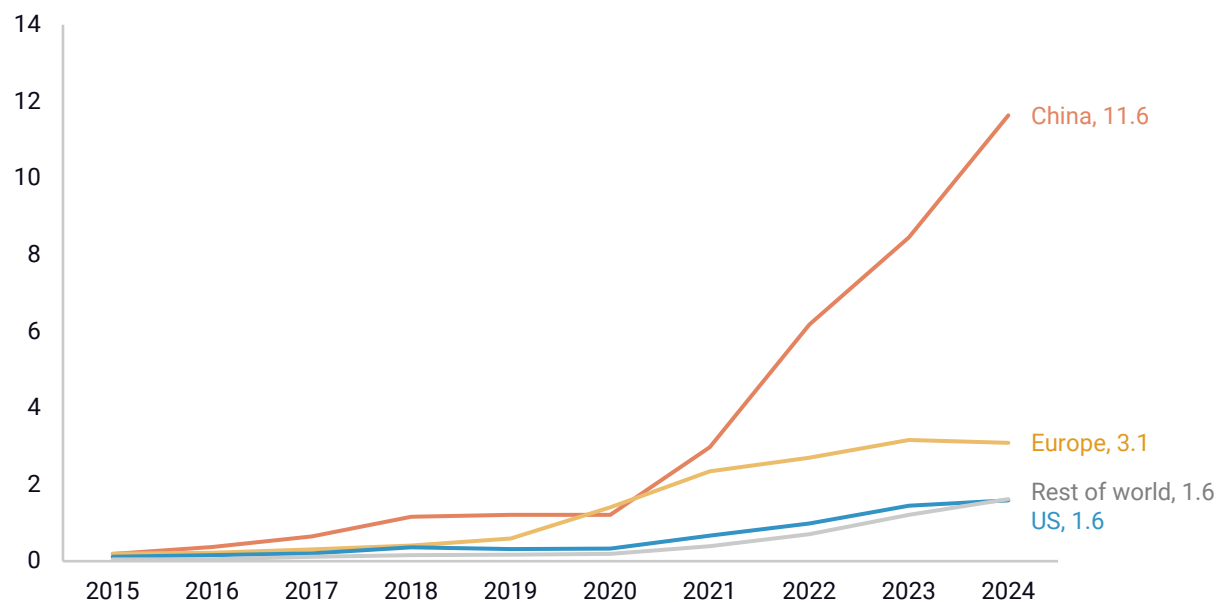
US and EU are in producing electric vehicles and how exposed each region is to competition from China.

Electric vehicle sales

Global demand for EVs has accelerated in the last five years. In China, sales and investment across the domestic EV supply chain took off in the late 2010s, driven by incentives for manufacturers and consumers. China now dominates the global EV market, with 65% of global sales in 2024, followed by Europe¹ with 20% and the US with 10%.

The US and European markets have been slower to take off. European sales rose in 2019 after the EU passed legislation to ban the sale of new ICE vehicles by 2035, requiring automakers to meet annual fleet-wide CO₂ emission targets for all new vehicles they sell (Figure 1). Under pressure from auto manufacturers, in May 2025, the European Parliament approved an amendment providing additional flexibility in the scheme. Rather than meeting targets on an annual basis, companies will exceptionally meet targets across a three-year average from 2025 to 2027. While this somewhat weakens ambition and creates investment uncertainty, importantly, the 2035 target remains. Norway and the UK have similar ICE phase-out plans targeting 2025 and 2030, respectively. In the US, federal tailpipe standards and EV tax credits, coupled with state-level EV mandates, helped drive EV adoption in the late 2010s. The Inflation Reduction Act (IRA), passed in 2022, expanded consumer EV tax credits.

FIGURE 1
EV sales by region
Millions of vehicles



Source: EV Volumes

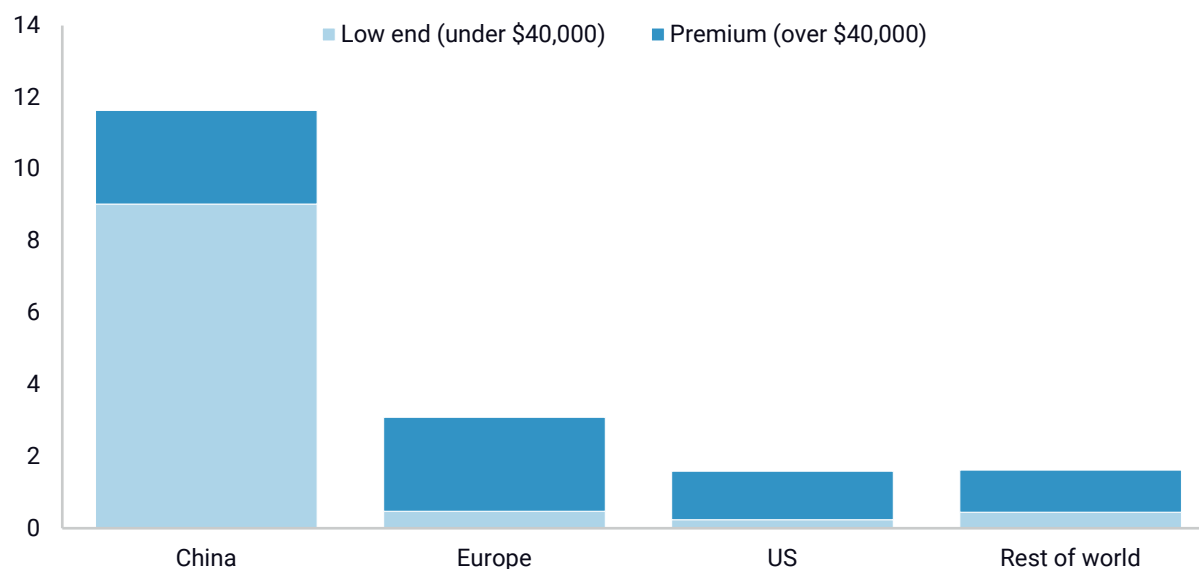
¹ Europe refers to EU27, Norway, Switzerland and the United Kingdom.

Sales in China are dominated by “low-end” vehicles (priced under \$40,000) while sales in European and US markets are more concentrated in the premium segment (Figure 2). The average sales price for a Chinese EV is \$35,100, compared to \$56,800 in Europe and \$59,100 in the US.² Faced with limited EV models at an affordable price point, many consumers in Europe and the US have continued to opt for conventional vehicles. Consumer preferences, coupled with the phase-out of subsidies in EU member states and policy uncertainty in the US, led to slowing sales growth in both regions in 2024.

FIGURE 2

EV sales by market segment in 2024

Millions of vehicles



Source: EV Volumes

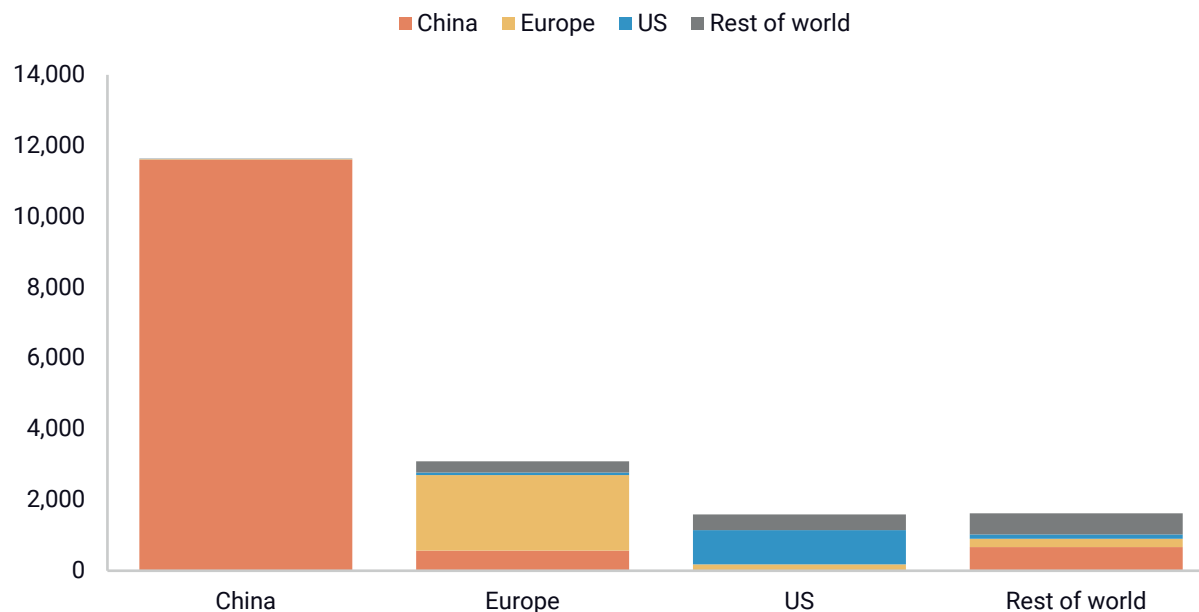
Two-thirds of EVs sold in Europe and the US are produced domestically—when domestic production refers to the final assembly of vehicles, not earlier stages such as battery cell fabrication (Figure 3). Chinese-produced EVs are one-fifth of Europe’s market, with essentially no sales in the US. Domestically, China produces nearly everything it sells. In the rest of the world, where EV sales are quickly rising, China accounts for 40% of sales, with the US and Europe accounting for 8% and 14% of sales, respectively.

² Sales-weighted average across all car types (including SUVs). Calculated using data from EV Volumes.

FIGURE 3

EV sales by country of origin in 2024

Thousands of vehicles



Source: EV Volumes

Manufacturing investments and capacity for electric vehicle production

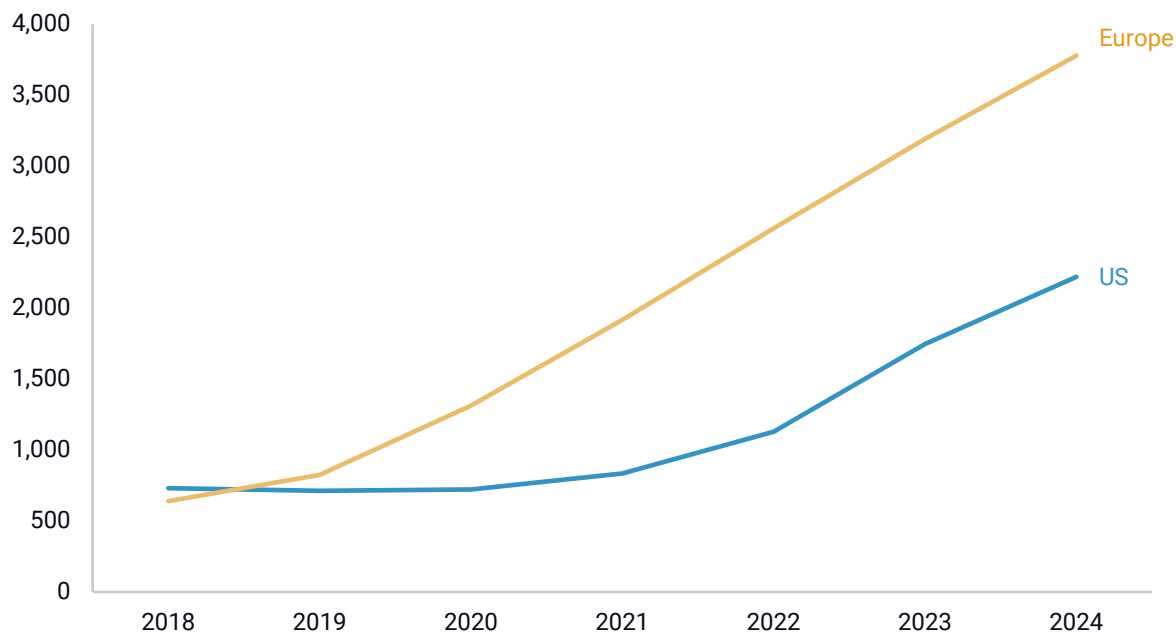
The US and Europe are global leaders in internal combustion engine manufacturing. Consequently, the auto industries in both the US and Europe have developed strong political constituencies relatively protected from overseas competition, giving US and European automakers relatively weaker incentives to invest in novel EV technologies, compared to Chinese producers.

As global EV sales rise and concerns about China's leadership in the sector grow, both the US and Europe have ramped up domestic manufacturing. In Europe, growing demand has driven a surge in EV production capacity since the CO₂ standards were passed in 2019, often supported by national state aid (Figure 4). The US saw an uptick in EV production capacity following the passage of the IRA, but capacity remains about 60% of that in Europe.

FIGURE 4

EV manufacturing capacity

Annual vehicle production capacity in thousands of vehicles



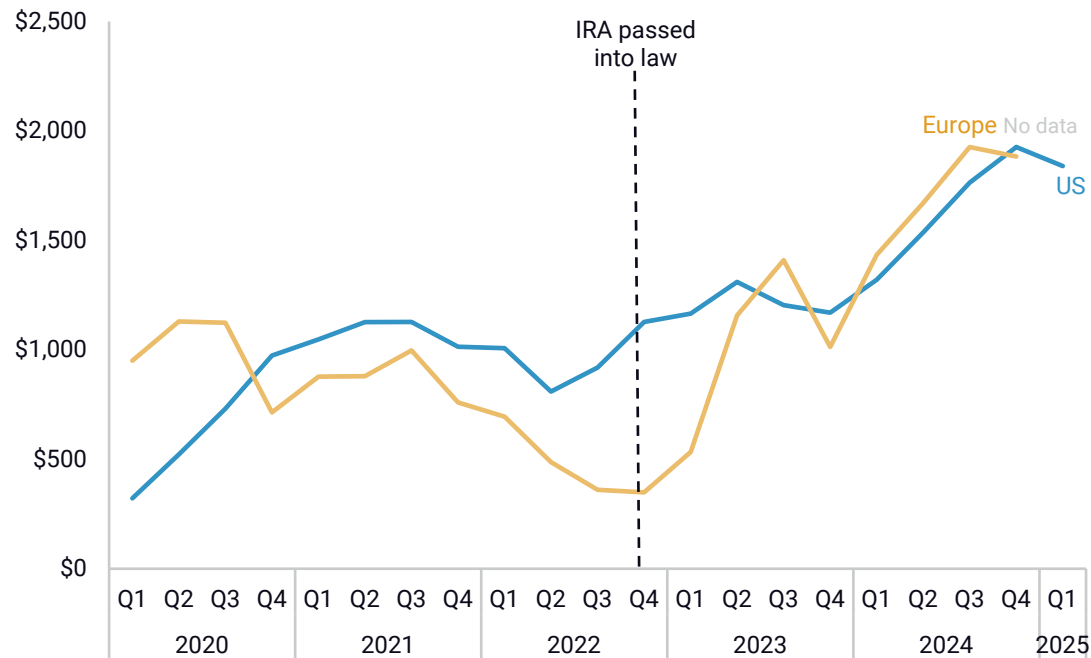
Source: Bruegel European Clean Tech Tracker and the Rhodium-MIT CEEPR Clean Investment Monitor

Investment has grown steadily in both the US and Europe, at roughly 10% quarter-on-quarter from 2020 to 2025 (Figure 5). Even with this impressive growth, the US EV industry saw less of a step change in investment following the passage of the IRA compared to batteries, which we covered in a [previous note](#). Investment in the battery industry surged in the US after the IRA, and the industry diverged sharply from Europe (Figure 6). One reason for the surge is that the IRA tax credits apply to a wide array of battery components (e.g., cells, modules, packs, anodes, cathodes, etc.), leaving room for a variety of new entrants. By contrast, EVs are a more complex product and therefore new ventures likely have a higher barrier to entry. In addition, under the IRA tax credits, EVs have to meet domestic sourcing requirements.

FIGURE 5

Quarterly investments in EV manufacturing

Million 2023 USD

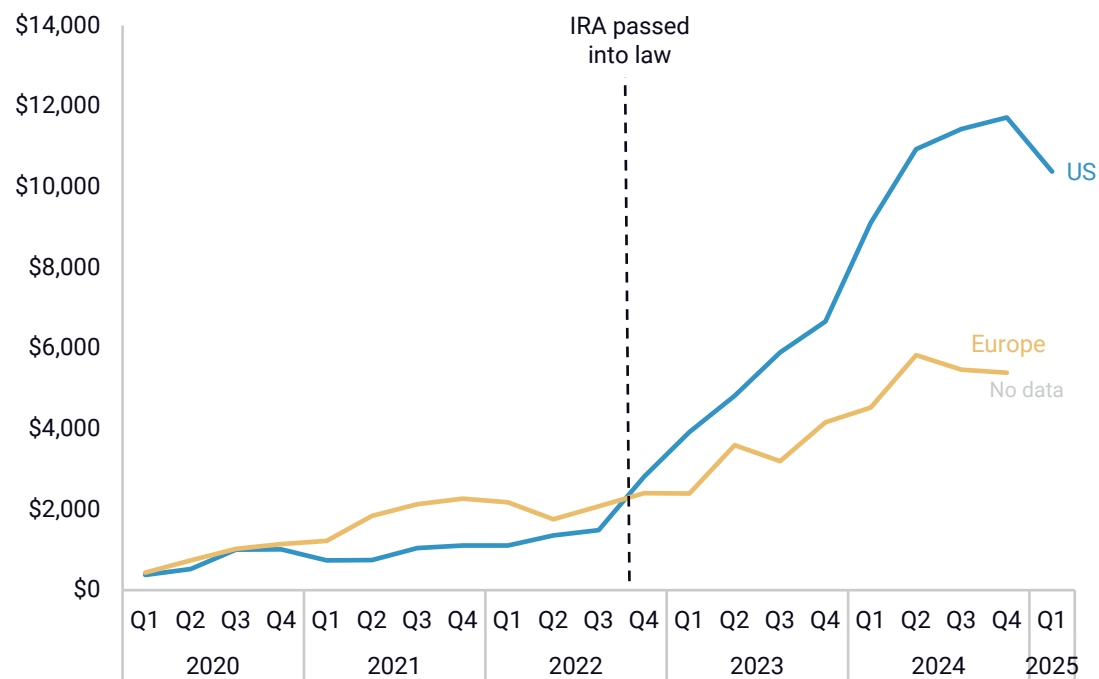


Source: Bruegel European Clean Tech Tracker and the Rhodium-MIT CEEPR Clean Investment Monitor

FIGURE 6

Quarterly investments in the battery manufacturing supply chain

Million 2023 USD



Source: Bruegel European Clean Tech Tracker and the Rhodium-MIT CEEPR Clean Investment Monitor

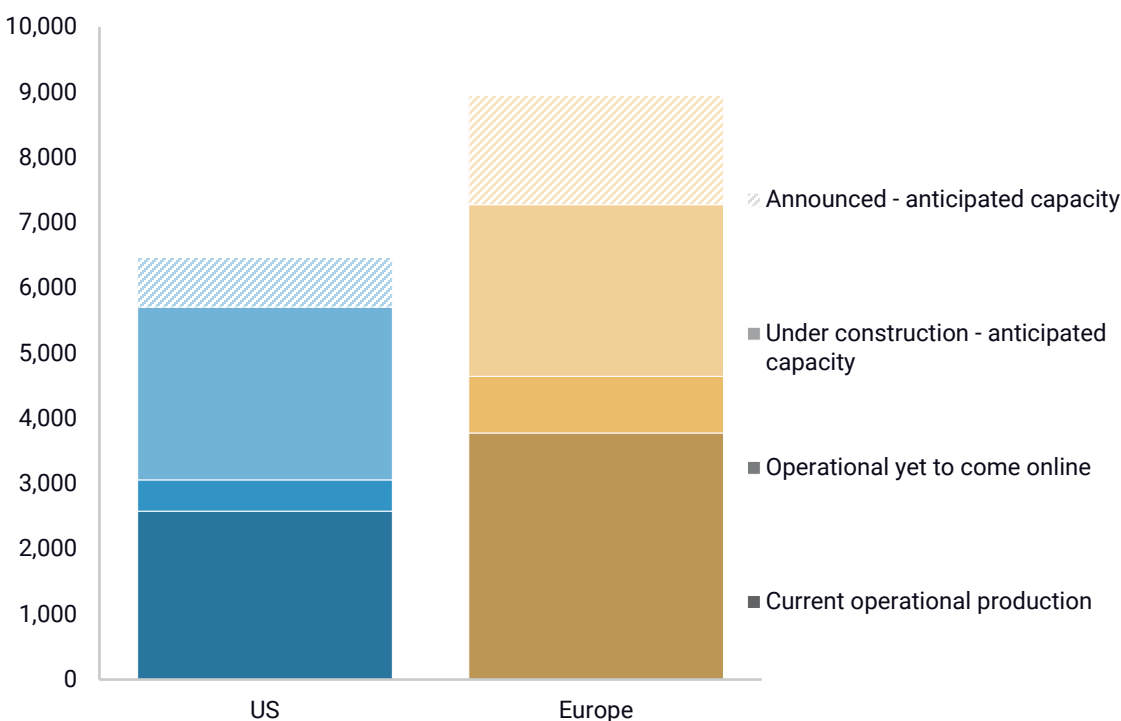
In recent quarters, there have been signs of a slowdown in EV investment growth in both the US and Europe, even while investment remains historically high and companies continue to make new manufacturing announcements. In the US, growth in EV manufacturing investments decelerated in Q4 2024, before falling 5% in Q1 2025 compared to the previous quarter. In addition, more than \$6 billion in battery projects, including Freyr Battery in Georgia and Kore Power in Arizona, were cancelled in Q1 2025—the highest value of quarterly cancellations on record. Quarter-on-quarter European investment also slowed in Q3 2024 and shrank marginally in Q4 2024. In Europe, ACC and SVOLT have paused their plans for battery manufacturing plants in Germany in 2024. In both regions, this downturn mirrors slowing EV sales, while in the US, this is compounded by uncertainty around the future of federal EV support and the impact of tariffs.

These uncertainties create additional risks for the pipeline of future projects expected to come online, including operating facilities ramping up production (“Operational yet to come online” below) as well as those under construction and announced. For the US, production capacity for 3.9 million vehicles is expected to come online, in addition to today’s operational capacity of 2.6 million. Europe has even more new projects in the pipeline, with 5.2 million vehicles capacity under construction or announced, in addition to 3.8 million in capacity already online (Figure 7). While the outlook appears more stable for Europe, the pace of future EV demand growth remains uncertain.

FIGURE 7

EV manufacturing capacity by project status

Annual vehicle production capacity in thousands of vehicles as of Q1 2025 in the US and Q4 2024 in Europe



Source: Bruegel European Clean Tech Tracker and the Rhodium-MIT CEEPR Clean Investment Monitor

The future competitiveness of electric vehicle industries

President Trump's tariffs, the risk of escalating trade wars, and an evolving policy landscape will impact sales and production of EVs in both the US and Europe. For the US, where EVs have become a political flashpoint, the industry's future is uncertain. Even before Trump's second term, the cost of an EV was relatively high in the US. Tariffs on construction materials will make it more expensive to construct manufacturing facilities. Tariffs on China—initiated under President Biden and ramped up under President Trump—raise the cost of EV production in existing facilities, given that China provides the lion's share of upstream EV battery components. The [budget package passed](#) by the US House of Representatives on May 22, and currently under consideration in the Senate, would effectively gut the energy tax credits under the IRA, including the EV-related provisions that have been critical in catalyzing the latest wave of investments. A potential repeal of the IRA tax credits, along with the many other attacks on federal and state clean vehicle regulations and incentives, further undermines the outlook for the domestic EV market. Higher prices and weakening policy support are likely to eat into domestic demand and reduce the competitiveness of US-made EVs abroad.

The outlook in the EU is clearer, with the 2035 zero-emission target providing some policy certainty. The key question concerns the degree to which domestic production should be protected even when it comes at the cost of restricting cheaper imports, which benefit consumers. This issue manifested itself in recent discussions over whether the EU should impose tariffs on the import of Chinese-made electric vehicles. Tariffs protect domestic manufacturers from perceived unfair competition but reduce the availability of affordable models to European consumers. The European approach has been to implement tariffs calculated according to the implied and unfair subsidy received by each firm. The levels are not set so high as to end all imports. Even these proportional tariffs are currently the subject of negotiation between the EU and China, with a consideration to replace them with minimum import prices.

While the US and Europe's EV industries are primarily focused on domestic markets, both regions exported just under one-fifth of their domestic EV production in 2024. European manufacturers have diversified their export partners and fostered partnerships with Chinese firms, a strategy that US manufacturers have largely avoided. Yet, weaker short-term regulations, uncertain demand growth, and higher cost pressures threaten the competitiveness of Europe's domestic industry.

The global electric vehicle transition presents an enormous industrial opportunity. Companies are investing billions of dollars to transform value chains in the US, Europe, and China, with billions more awaiting final investment decisions. China's significant lead in production scale, cost efficiency, and domestic market size positions it as the dominant player in the international market. As the world shifts to EVs, US and European firms will likely lose market share compared to the gasoline car era in the face of steep competition from China. An important policy question will remain the extent to which Chinese exporters are allowed into the US and European markets, balancing affordability with industrial competitiveness. Current US policy is to deny any domestic market access to Chinese exporters, while the picture in Europe is more nuanced.

Smart policy is needed to strengthen domestic markets, encourage domestic manufacturing, and respond to growing Chinese dominance. Data to evaluate such choices will remain critical. In our collaboration with Bruegel, we will continue to monitor market trends and investments on both sides of the Atlantic. Beyond Europe and the US, a global perspective is increasingly important as China cements its dominance and the rest of the world ramps up investment and adoption of clean technologies. Recognizing this need, Rhodium Group, with European data from Bruegel, will soon be expanding our tracking to include global coverage, starting with EVs and batteries in June, and extending to all major clean technologies early next year.

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