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Subject category and title

Electric vehicles: Vulnerable markets under EU's electric vehicle import tariffs requires targeted policies

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Standfirst

EU tariffs on China-made electric vehicles (EVs) modestly slow overall electrification but significantly reduce adoption in vulnerable markets. The finding highlights the various affections of uniform trade interventions and underscores the importance of aligning policies to support a resilient and inclusive transition.

Source research

Dou, H. *et al.* EU import tariffs on Chinese electric vehicles reshape electrification in vulnerable markets. *Nat. Energy* (2026).

Messages for policy

- Although the average impact of EU import tariffs on EV adoption is moderate at the aggregate level, tariff-induced shocks generate highly uneven electrification outcomes across markets.
- Tariff policy should be complemented by supply-chain measures that accelerate onshoring of LFP batteries production and support EU–global automaker partnerships.
- Small-to-medium vehicle classes that rely on low-cost battery electric vehicle models require flexible tariff treatment to protect price-sensitive markets and maintain adoption momentum.
- Tariff revenues can support resilient and inclusive transition by providing purchase incentives targeting low-income countries and vulnerable vehicle classes.

The policy problem

The EU imposed import tariffs on China-produced battery electric vehicles (BEVs) in 2024, with rates of 7.8% – 35.3% varying across brands based on the investigation of subsidy rate. This policy may affect the affordability of EVs in the EU market, thereby influencing the pace of electrification in the passenger vehicle market, with potential implications for achieving the EU's 2035 road transport emission reduction targets. At the same time, this uniform policy overlooks heterogeneity across countries and vehicle segments, particularly in lower-income markets and smaller vehicle classes. These consumers may face disproportionately larger negative impacts compared with the EU average, potentially undermining the equity and resilience of the EU's low-carbon transition.

The findings

The electrification is jointly influenced by tariff policies and automaker response strategies, with heterogeneous effects across markets. If Chinese automakers adjust prices, the EU EV share (Fig. 1a) by 2035 is projected to decline by 0.7% – 3.8%, with larger reduction in Romania's compact SUVs (–9.7%) but increases in Belgium's MPVs (+3.9%). In contrast, if they onshore EV production to the EU, the EV share is projected to change by –0.1% to +4.5% (Fig. 1b), but segmental effects diverge (–18.0% in Belgium's MPVs vs. +19.5% in Poland's large SUVs). The findings provide broader insights for global trade policies affecting the low-carbon transition, particularly in contexts where significant cost differences exist between domestic and imported products. Policymakers should interpret the findings cautiously, as the absence of CO₂ emission targets as binding constraints in the analysis may cause projected values to deviate from the actual electrification trajectory.

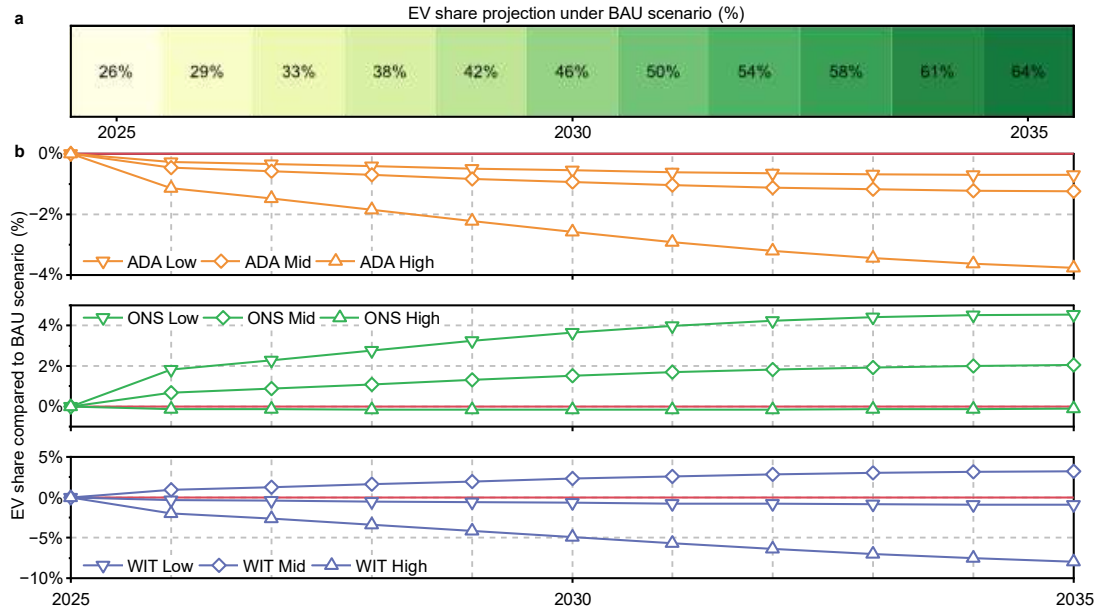


Fig. 1. EV share projection under BAU scenario and various automakers response strategies. (A) Annual EV share projections from 2025 to 2035 under the BAU scenario. (B) Annual EV share differences compared to the BAU scenario across multiple scenarios and cases. BAU: business as usual scenario; ADA: adapting to tariff scenario; ONS: onshoring BEV production scenario; WIT: withdrawing from the EU scenario.

The study

Based on passenger vehicle sales data from 20 EU countries, combined with vehicle technical specifications and retail price data, we develop a total cost of ownership (TCO) model covering 168 BEV models and 125 plug-in hybrid electric vehicle (PHEV) models. The model evaluates TCO across 200 market segments (20 countries $\times$ 10 vehicle classes). Building on assumptions regarding automaker response strategies, we construct three scenarios (nine cases) to capture price adjustment mechanisms, including price adaption, production relocation, and market withdrawal, and assess their corresponding impacts on TCO. Using the New Energy and Oil Consumption Credit (NEOCC) model, and calibrated with TCO data from 2019 – 2025, we further translate TCO changes into projections of EU electrification levels in 2035. This framework enables the identification of vulnerable countries and market segments, revealing the heterogeneous impacts of tariff policies.

Further Reading

Chun, H. Y. & Park, T. J. How car and battery companies can work around US trade tariffs and rules. *Nature* **637**, 31-33 (2025). **This comment qualitatively discusses the importance of response strategies for EV supply chain firms facing trade barriers such as import tariffs.**

Liu, M. *et al.* The potential for differentiated vehicle segment tariffs. *Nat. Energy* **10**, 1042-1044 (2025). **This correspondence highlights the need for greater flexibility in tariff policies and the vulnerability of small-to-medium vehicle classes in the EU.**

Dehghanimadvar, M., Egan, R. & Chang, N. L. Quantifying the costs of diversifying silicon PV module assembly with local economic policies. *Joule* **8**, 1322-1349 (2024). **This article examines how tariffs on low-carbon products (photovoltaic modules) translate into price changes and assesses their impact on adoption in local markets relative to domestically produced alternatives.**

Fedoseeva, S. & Zeidan, R. Tariff reduction on renewables inputs for European decarbonization. *Nat. Sustain.* **1**, 436-440 (2018). **This article quantifies the impact of tariffs on decarbonization in Europe using an economic modeling framework.**

Wang, M. *et al.* Breaking down barriers on PV trade will facilitate global carbon mitigation. *Nat. Commun.* **12**, 6820 (2021). **This article assesses the reduction in emission mitigation potential caused by tariff barriers in international photovoltaic trade using an integrated modeling framework.**

Acknowledgements

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Competing interests

The authors declare no competing interests.