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Article:

Dou, H., Jiang, S., Ou, S.S. et al. (2026) Managing the impacts of EU electric vehicle import tariffs. Nature Energy. ISSN: 2058-7546

https://doi.org/10.1038/s41560-026-02102-w

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Electric vehicles:

Managing the impacts of EU electric vehicle import tariffs

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Standfirst

EU import tariffs on battery electric vehicles may not substantially hinder the overall electrification process but may significantly reduce adoption in vulnerable markets. These findings highlight the uneven implications of broad trade interventions and underscore the importance of complementary 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

- EU import tariffs have modest effects on aggregate electric vehicle uptake but may generate uneven electrification outcomes across member states and vehicle segments.
- Tariff policies should be complemented by supply-chain measures that accelerate the onshoring of battery production and support partnerships across the automaker sector.
- Small and medium segments that rely on low-cost battery-electric models may require more flexible tariff treatment to protect price-sensitive markets and maintain adoption momentum.
- Tariff revenues could be recycled into targeted purchase incentives for low-income member states and vulnerable vehicle segments.

The policy problem

The EU imposed import tariffs on China-produced battery-electric vehicles in 2024 following an anti-subsidy investigation. Tariff rates vary by manufactures and range from 7.8% to 35.3%, in addition to existing import duties. The policy aims to respond to concerns over subsidized competition while preserving progress towards transport decarbonization. This creates a policy tension. Affordable EVs remain important for mass-market adoption, particularly in lower-income member states and smaller vehicle segments where consumers are highly sensitive to ownership costs. Moreover, this EU-level policy may affect member states and vehicle segments unevenly. Specifically, consumers in lower-income markets and smaller vehicle segments may face disproportionately greater impacts than the EU average, potentially affecting the equity and resilience of the EU's low-carbon transition.

The findings

Electrification outcomes are jointly influenced by tariff policies and automaker response strategies, with heterogeneous effects across markets. If manufacturers respond through price adjustments, the EU EV share (Fig. 1a) by 2035 is projected to decline by 0.7% − 3.8% (Fig. 1b), with the largest reduction observed in Romania's compact SUVs (−9.7%) and the largest increase in Belgium's MPVs (+3.9%, Fig. 1c). In contrast, if manufacturers respond through localised EV production, the EV share is projected to change from −0.1% to +4.5% (Fig. 1b), while segment-level effects vary from −18.0% in Belgium's MPVs to +19.5% in Poland's large SUVs (Fig. 1c). These findings provide insights into how trade policies may affect the low-carbon transition in markets where significant cost differences exist between domestic and imported products. The findings should nevertheless be interpreted cautiously, as the absence of binding CO_2 emission targets in the analysis may cause projected values to deviate from the actual electrification trajectory.

<Insert Fig.1>

The study

The analysis combines vehicle sales, technical specifications, and retail price data for passenger vehicles across 20 EU member states. It covers 168 BEV models and 125 plug-in hybrid electric vehicle models across 200 market segments, defined by country and vehicle class (20 countries × 10 vehicle classes). A total cost of ownership model is used to estimate consumer-facing costs, including depreciation, energy, maintenance, taxation, and insurance. The study then models three automaker response scenarios. In the adapting-to-tariffs scenario, China-produced vehicles remain in the EU market, with prices adjusting in response to tariffs. In the onshoring scenario, production is relocated to Europe, avoiding tariff and transport costs but incurring higher local production costs. In the withdrawal scenario, different groups of China-produced vehicles become unavailable in the EU market. These cost changes are translated into projected electric vehicle adoption using a calibrated market adoption model through 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.**

Acknowledgments

The authors thank Y. Deng, S. Du, H. Li, Z. Dong, and T. Kang for helpful discussions.

Funding Statement

H.H. discloses support for the research of this work from the National Natural Science Foundation of China (72122010), Carbon Neutrality and Energy System Transformation (CNEST) Program led by Tsinghua University, and International Joint Mission on Climate Change and Carbon Neutrality. Y.G. discloses support for the research of this work from the National Natural Science Foundation of China (72561147302, 72088101). S.O. discloses support for the research of this work from the National Key Research and Development Program of China (2024YFE0115800) and Department of Science and Technology of Guangdong Province (2023ZT10L145). B.L. discloses support for the research of this work from the National Natural Science Foundation of China (72504155).

Competing interests

The authors declare no competing interests.

Figure Caption

Fig. 1. Electric vehicle adoption under tariff-related automaker responses. (A) Annual electric vehicle share projections from 2025 to 2035 under the BAU scenario. (B) Annual electric vehicle share differences compared to the BAU scenario across multiple scenarios and cases. (c) Segmental electric vehicle share differences compared to the BAU scenario in 2035 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; SUV: sport-utility vehicle; MPV: multi-purpose vehicle. Figure reproduced from Dou, H. et al. *Nat. Energy* (2026).