Battery Lifecycle
Used EV export

Ukraine Records Unprecedented Surge in Used EV Imports as Policy Deadline Triggers Historic December Inflow

- 2025 represents a clear structural break for the Ukrainian EV market, with total EV additions exceeding 107,000 units, driven by a doubling of used EV imports (+104.7% YoY) alongside strong growth in new registrations (+122.9% YoY). This lifted the total EV fleet to approximately 246,000 vehicles, positioning Ukraine among the largest EV markets in Europe by absolute fleet size.
- December 2025 was an exceptional, policy-driven outlier, as over 30,000 EVs were registered in a single month ahead of the reinstatement of VAT. Volumes were further amplified by registration backlogs, speculative inventory accumulation, and the clearing of previously imported vehicles, implying a significant front-loading of demand rather than a new underlying run rate.
- The import surge shifted the fleet toward older vehicles, raising the average EV age from 5.6 to 6.3 years as buyers optimized for lower acquisition costs. From a battery perspective, this accelerates the progression of a large share of the fleet toward second-life eligibility and end-of-life, materially affecting future battery supply curves.
- *Ukraine is a systemically important market for battery lifecycle analysis, acting as the world's largest importer of used EVs and a major aggregation point for aging battery assets. As a result, changes in Ukrainian import dynamics directly influence export flows from the US, Europe, and China, with downstream implications for battery reuse, recycling capacity planning, and value realization in originating markets.*

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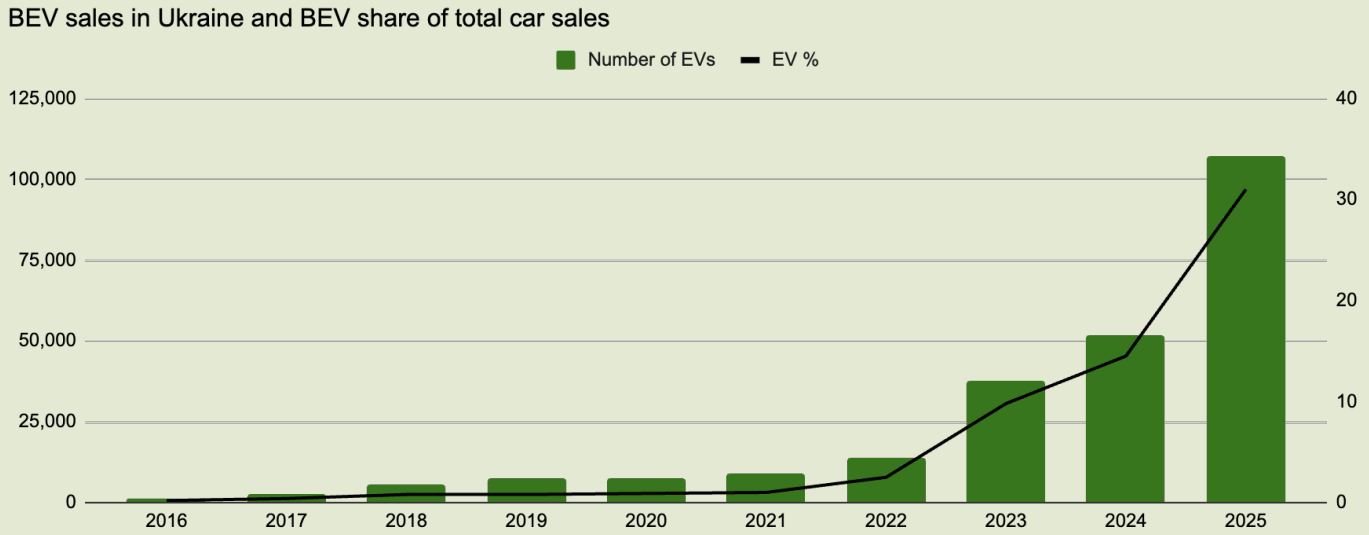
CES Online data referenced
The Battery Lifecycle Report

Data access
www.circularenergystorage-online.com



Sales of both used and new electric vehicles in Ukraine have expanded steadily since imports began in 2015. The country has since evolved into the world's largest importer of used electric vehicles and, simultaneously, one of the largest destinations for new—or so-called lightly used—electric vehicles, primarily originating from China.

In 2025, battery electric vehicles (BEVs) accounted for 31% of all imported passenger vehicles, both new and used. Within Europe, this penetration rate is exceeded only by Norway, Denmark, Sweden, Belgium, and the Netherlands. However, Belgium, Sweden, and the Netherlands exhibit substantial net exports of electric vehicles, suggesting that their absolute fleet growth is likely comparable to, rather than materially higher than, that of Ukraine. *Data from the Institute for Automotive Market Research and other public sources in Ukraine.*

2025: A Structural Break for the Ukrainian EV Market

The year 2025 marked a clear structural break for the Ukrainian electric vehicle market rather than a continuation of trend growth. According to the Institute for Automotive Market Research in Ukraine over the course of the year, the national car fleet was replenished with 84.4 thousand used imported electric vehicles, representing year-on-year growth of 104.7%. New EV registrations also expanded sharply, reaching 22.8 thousand units, up 122.9% compared with 2024.

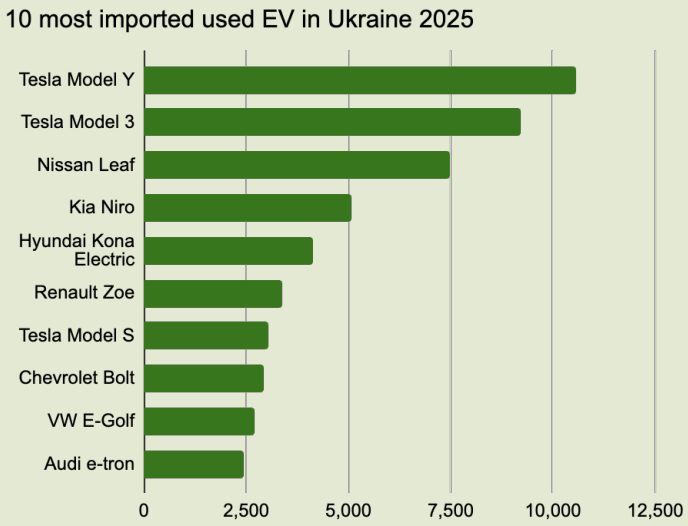
Taken together, total EV additions exceeded 107 thousand units, lifting the total electric car fleet to approximately 246 thousand vehicles by year-end. This places Ukraine ahead of several West European countries such as Austria, Switzerland, and Spain in terms of absolute EV fleet size and not far behind faster-growing markets like Belgium. The scale of this outcome underscores the effectiveness of the long-standing VAT exemption as a demand stimulus and confirms Ukraine's position as a key global destination for used electric vehicles.

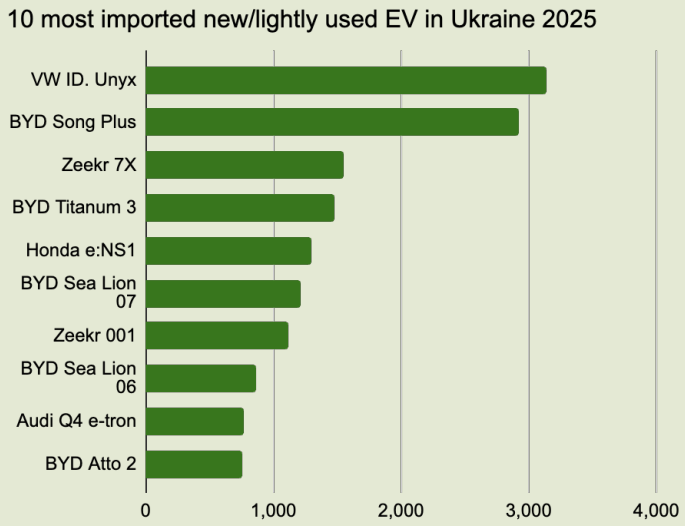
December 2025: An Exceptional and Likely Non-Repeatable Event

The acceleration reached its peak in December 2025, which will go down as a historic month for the Ukrainian car market. During the month, 25,047 used electric vehicles and 5,846 new EVs were put on first registration. Even these figures likely understate the true level of activity, as service centers of the Ministry of Internal Affairs according to the Institute for Automotive Market Research, were unprepared for the surge. In several regions, shortages of "green" license plates were reported, and registration backlogs emerged.

As a result, part of the December import wave will likely be reflected in January 2026 registration data. Additional delays affected a portion of vehicles imported from the USA that required extensive repair and certification following accident damage. These units, though imported earlier, are now expected to enter official statistics in the new year.

The magnitude of the December surge was driven by a combination of factors. The expiry of the VAT exemption on 31 December 2025 was the dominant catalyst, but it was reinforced by the mass registration of vehicles imported and repaired earlier in the year, speculative purchases intended for inventory storage, and a broadly pragmatic effort by households and traders to lock in VAT savings while still possible. In effect, December represented a front-loading of demand rather than a sustainable new monthly run rate.





The composition of used EV imports into Ukraine closely mirrors both the historical sales mix of electric vehicles over the past decade and the current wave of end-of-life volumes emerging in Europe and the United States. Residual value dynamics play a critical role in shaping this mix, selectively amplifying or suppressing the prevalence of individual models depending on depreciation profiles, repair economics, and resale potential.

By contrast, imports classified as new electric vehicles are predominantly grey-market flows originating in China, where vehicles are first placed on the domestic market before being exported. This segment is expected to expand further, although Chinese authorities have begun signaling tighter controls on the export of so-called lightly used vehicles. In several other import markets, most notably Jordan, this category has already become the dominant source of electric vehicle inflows. *Data from the Institute for Automotive Market Research in Ukraine.*

Fleet Composition and Aging Profile

As of the end of 2025, excluding industrial electric vehicles, trolleybuses, rail stock, and the motorcycle segment, Ukraine's electric vehicle fleet stood at approximately 246 thousand units. Passenger cars account for the overwhelming majority, at 241.2 thousand units, with electric trucks representing 4.9 thousand vehicles and only a handful of electric buses in operation.

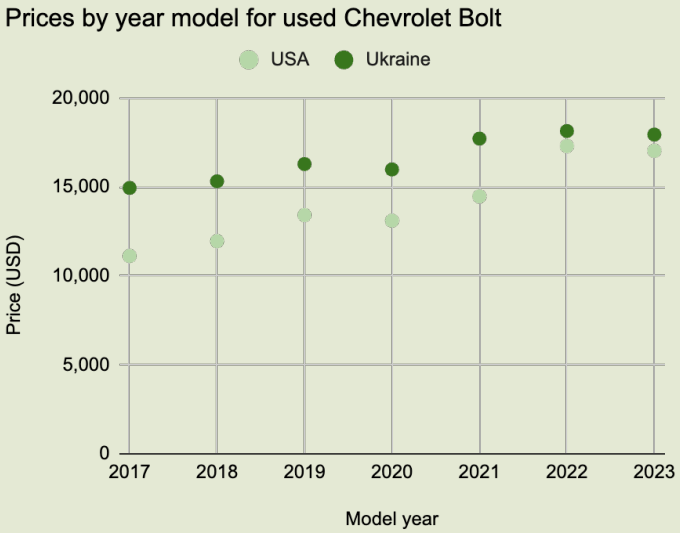
The fleet is dominated by a small number of brands, with Tesla accounting for close to 21% of vehicles, followed by Nissan at 16% and Volkswagen at 12%. Model concentration remains high, particularly for the Nissan Leaf, which alone represents 14.4% of the total fleet. Tesla's Model 3 and Model Y follow with shares of 8.1% and 7.2%, respectively.

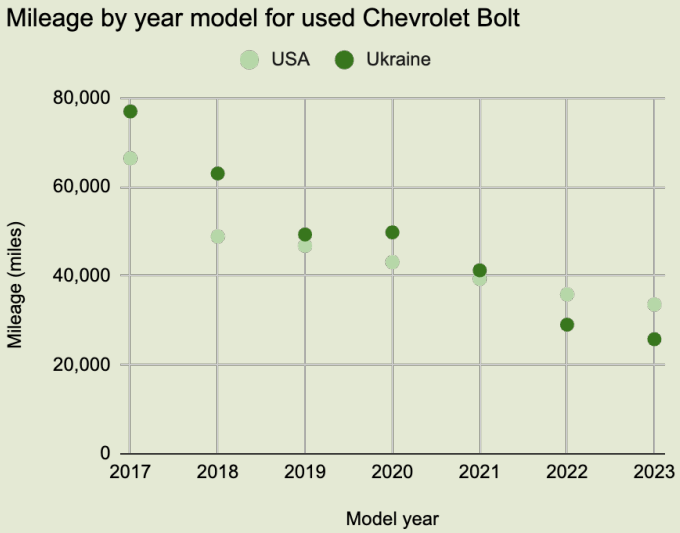
The composition of December imports materially altered the age profile of the fleet. The average age of electric vehicles increased from 5.6 years to 6.3 years following the year-end surge, indicating that buyers prioritized older, lower-priced vehicles in order to maximize the benefit of the expiring VAT exemption. From a battery lifecycle perspective, this shift accelerates the timeline for secondary use and end-of-life processing while it moves the whole stock from original to used markets.

Import Origins and the Role of Grey-Market "New" Vehicles

The Ukrainian EV fleet remains heavily shaped by imports manufactured in the United States, which account for approximately 31% of vehicles, followed by China at 21.5% and Germany at 16%, all reflecting the high market shares of Tesla (made in all of these countries) and Nissan Leaf. Used vehicles imported from the US and Europe continue to form the backbone of the market.

At the same time, so-called "new" EV imports increasingly consist of vehicles originating from China and entering Ukraine via grey-market channels. These vehicles are typically sold to domestic dealers in China and subsequently exported, bypassing traditional manufacturer-controlled distribution. This trade has expanded rapidly and has already displaced used-EV imports in markets such as Jordan and Russia. Ukraine is now seeing similar dynamics alongside its still-dominant used import flows.





Based on January 2026 data, average list prices were analyzed across the largest online car marketplaces in Ukraine and the United States, covering 475 vehicles listed on RIA Auto and 518 vehicles on Autotrader. On average, used EV prices in Ukraine are 9.5% higher than in the US. This premium widens materially for vehicles older than four years, where Ukrainian prices exceed US levels by between 21.4% and 34.4%.

Importantly, older vehicles listed in Ukraine also exhibit higher average mileage than their US counterparts, implying that the effective price gap—on a quality-adjusted basis—is even larger than headline comparisons suggest. By contrast, newer models show significantly narrower cross-market price differentials. We attribute this primarily to a higher share of write-off and accident-damaged vehicles within this segment, which allows Ukrainian importers to source vehicles at prices well below standard used-car market levels, with limited sensitivity to mileage in resale pricing.

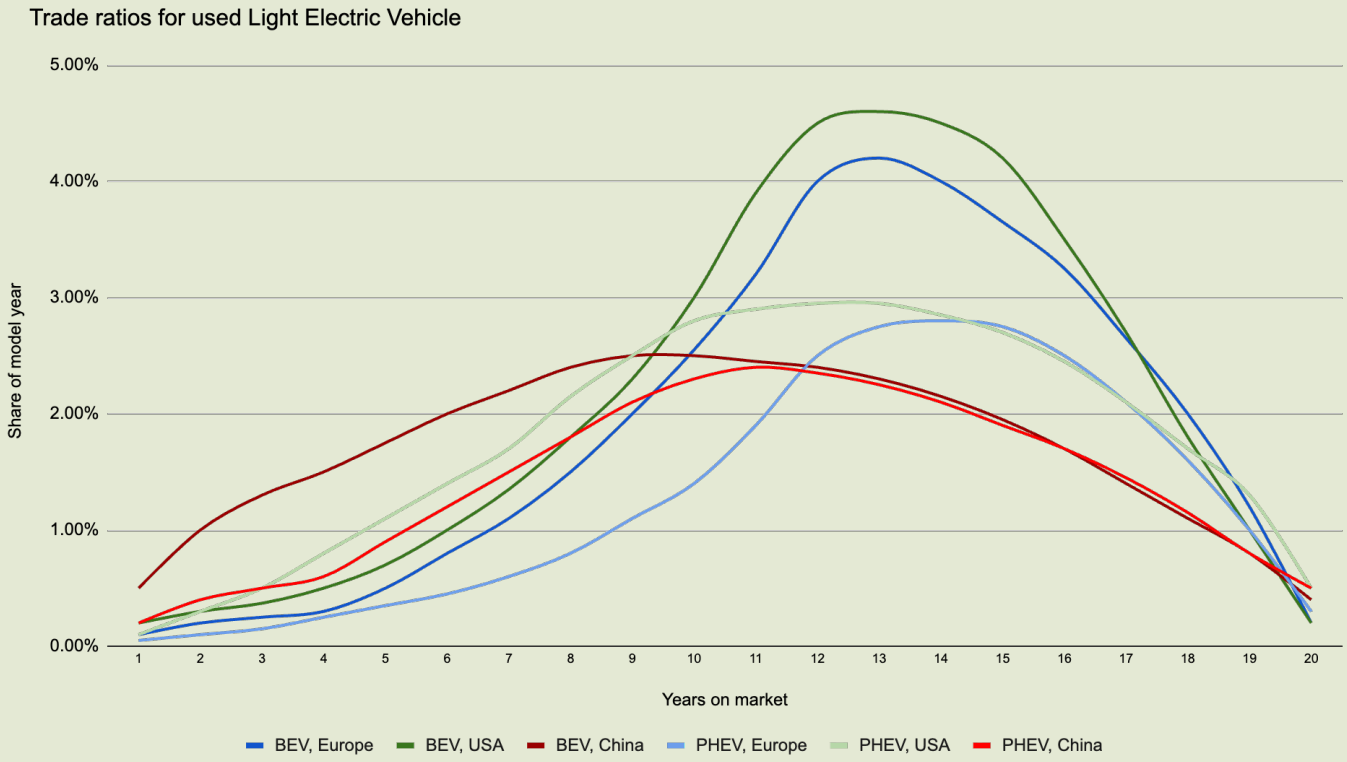
Price Arbitrage and Cross-Market Dynamics: Evidence from Chevrolet Bolt

Price dynamics between the US and Ukrainian markets remain a key determinant of cross-border EV trade flows. Since August 2025, it has been widely anticipated that Ukraine's VAT exemption for electric vehicles would not be extended, while, in parallel, the United States terminated its USD 4,000 tax credit for used EVs at the end of September. Although the removal of the US credit initially pushed up advertised list prices—reflecting the fact that many listings had already embedded the subsidy—the subsequent market adjustment led to broad-based price declines across the US used EV market from early 2025 onward.

Our analysis of the Chevrolet Bolt highlights this divergence clearly. In the US market, prices for 2022 model-year vehicles declined by as much as 10.9%, while 2023 models, which dominate US used EV sales, experienced only a modest decline of 1.84%. Prices in Ukraine also softened over the period, but to a significantly lesser extent. On average, used Chevrolet Bolts are currently priced around 9.5% higher in Ukraine than in the US. For vehicles aged six to ten years, this premium widens substantially, reaching between 21% and 34%, despite materially higher average mileage in the Ukrainian market.

At the same time, supply dynamics have diverged sharply. The number of used Chevrolet Bolts available for sale in the US has declined by more than 50%, while availability in Ukraine has only marginally decreased, underscoring Ukraine's continued role as a destination market absorbing vehicles from shrinking US inventories.

Notably, newer model years exhibit significantly narrower price differentials between the two markets. We attribute this primarily to a higher share of write-off and accident-damaged vehicles in this segment, which Ukrainian importers are able to acquire at prices well below standard used-car benchmarks. This sourcing advantage allows importers to bring in vehicles with relatively low mileage and resell them at prevailing market prices, preserving—or in some cases materially increasing—margins compared with sourcing fully roadworthy vehicles.



Post-VAT Outlook and Implications

From January 2026, electric vehicles imported into Ukraine are once again subject to 20% VAT, while customs duty remains at zero. Importers continue to pay excise duty, typically between EUR 30 and 100 depending on battery capacity, but EVs remain exempt from the Pension Fund fee upon first registration. As a result, electric vehicles retain a relative fiscal advantage compared with internal combustion engine vehicles.

We expect import volumes to decline sharply in the first months of 2026, reflecting short-term market saturation following December's pull-forward demand and the presence of speculative inventory already registered. Nevertheless, underlying interest in EVs remains strong. Persistent price arbitrage—particularly between the US and Ukraine—suggests that exporters retain some capacity to absorb part of the VAT impact.

From a strategic perspective, Ukraine's position as the world's largest importer of used EVs makes it a critical aggregation point for aging battery assets. This concentration materially affects the timing, scale, and geography of battery reuse and recycling flows, reinforcing the importance of closely monitoring Ukrainian market dynamics. In the Battery Lifecycle Report 2025, we concluded that this market is largely demand-driven, implying that material changes in Ukrainian import rates have global repercussions, particularly for vehicle outflows from the US and the EU.

Beyond VAT reinstatement, one potential structural shift affecting demand for used vehicles from Europe and North America is the rapidly growing share of used Chinese EVs. In Jordan—another major destination for used EV exports—87% of the 48,413 EVs imported in 2025 originated from China, with only 13% sourced elsewhere. By contrast, markets such as Serbia, Albania, and Georgia continue to expand primarily through US and European imports; in the first eleven months of 2025, Georgia imported 5,172 used EVs from the US, compared with 1,058 from China.

We therefore expect exports from origin markets such as the US, Canada, the EU, the UK, and Japan to continue. Accordingly, we make no changes to our forecasts, which estimate that 42.4% of BEVs in the US will exit the domestic market before reaching end of life, alongside 37.6% in Europe (EEA and UK) and 34.4% in China. These flows are highly significant for the future availability of end-of-life batteries in the originating markets.