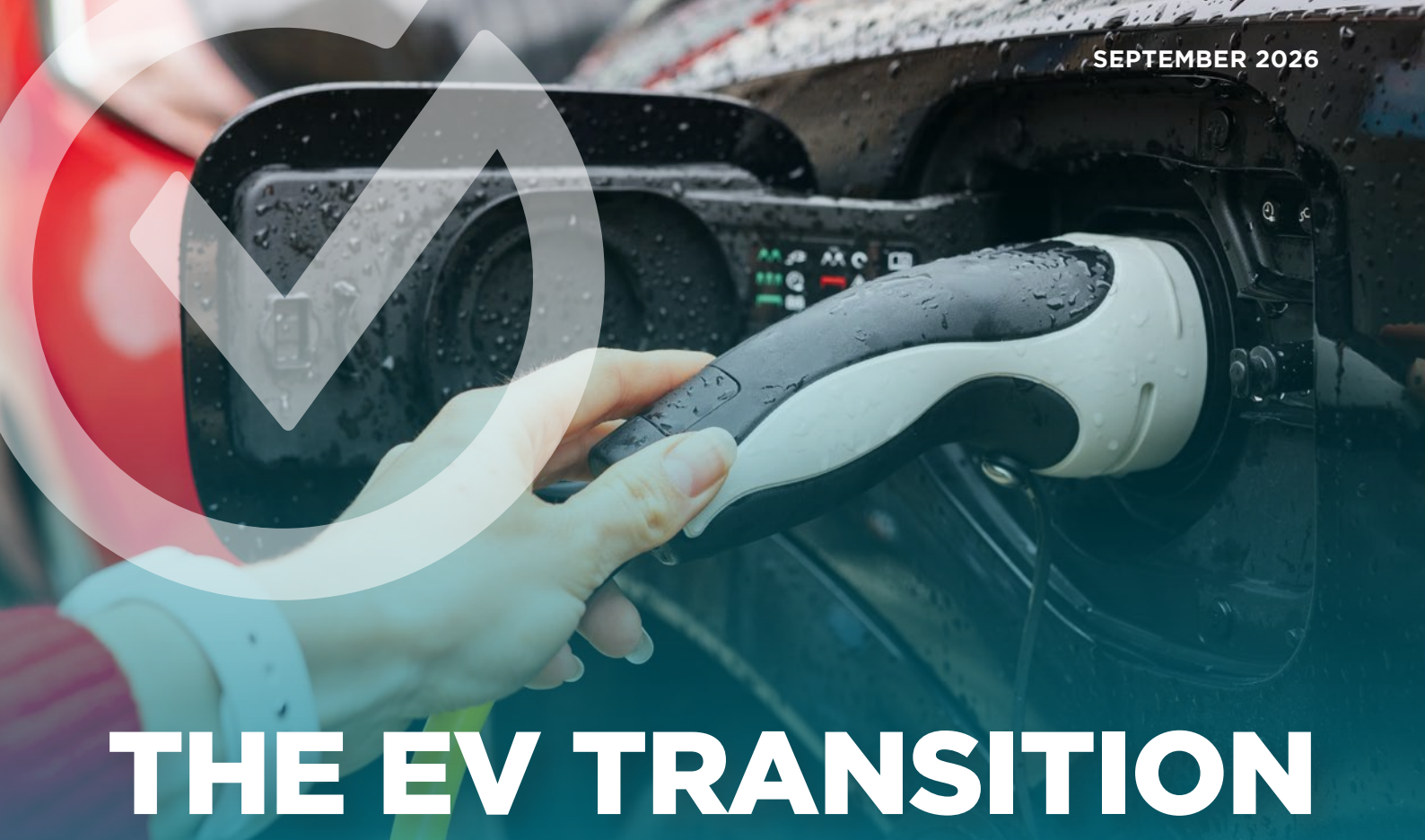

SEPTEMBER 2026

THE EV TRANSITION CHECK 2026

Measuring progress toward zero emissions for road transport in Europe

Marie Rajon Bernard and Alexander Plummer

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EXECUTIVE SUMMARY

Our EV Transition Check assesses the progress of Europe's road transport toward zero emissions. This second edition widens the scope to include trucks and buses in addition to passenger cars. With its broad range of data and analysis, the EV Transition Check provides a comprehensive snapshot of the current status of the transition to battery electric vehicles (BEV).

In terms of the affordability and accessibility of BEVs, the number of passenger car BEV models on offer in Europe's largest automotive market, Germany, has quadrupled between 2020 and 2025 to about 160, and affordable options (defined as BEVs priced below €30,000) have grown to about 35. BEVs in the three largest car segments (medium, upper-medium, and luxury) have already reached upfront cost parity with comparable internal combustion engine vehicles (ICEVs). Although the median BEV sales price has increased in recent years, so has the electric range (by approximately 30% on average in the past 5 years). Factoring in improvements in performance as well as inflation, BEV prices have decreased by about 18% over the past 5 years, spurred primarily by a decrease in global battery prices, which, adjusted for inflation, have fallen by about 35% in the past 5 years. The delta between battery cost reductions and BEV sale prices indicates further potential for BEV price reductions in the upcoming years.

On running costs, BEVs on the road today are saving the EU around €4.5 billion a year in fossil fuel imports.[1] For consumers, BEVs are on average already about 33% cheaper to drive than gasoline ICEVs and also represent the most economically viable decarbonization pathway in the long term, a trend that the 2026 oil crisis has further reinforced. For trucks, BEVs and diesel ICEVs are approaching total cost of ownership (TCO) parity or, in some cases, such as regional and long-haul trucks in Germany, have already reached it. Meanwhile, public chargers are sufficiently available on roads across Europe, although public charging remains significantly more expensive than charging at private chargers. For the future, smart charging and vehicle-to-grid technologies promise savings potential, provided those technologies are more widely deployed.

As a result of the decrease in upfront vehicle prices within their segments and the stronger TCO performance, uptake of BEVs has accelerated, comprising 22% of new passenger car registrations in the EU in H1 2026 and 28% of newly registered buses and coaches. BEV uptake in the medium- and heavy-duty truck segments saw a similar increase, with year-on-year growth doubling the number of battery electric medium truck sales, which reached a 21% share in H1 2026, while heavy-duty trucks reached a 2.3% BEV share. Mostly thanks to this uptake, vehicle manufacturers are on track to meet their carbon dioxide (CO_2) emission targets. The increase in BEV adoption reflects a broader global trend, with other markets like Vietnam, Thailand, and China surpassing the EU's BEV uptake in H1 2026: Vietnam had a 47% BEV share among new passenger car sales, Thailand a 36% share, and China a 35% share. The EU is positioning itself within this global shift, with 19% of car production in the EU already battery electric in 2025 and all announced cell production capacities sufficient to meet vehicle demand in 2030, provided the capacity utilization of gigafactories increases.

1 Directorate-General for Climate Action, "Electric Car Sales Surge as High Oil Prices Drive Shift Away from Fossil Fuels," European Commission, June 16, 2026, https://climate.ec.europa.eu/news-other-reads/news/electric-car-sales-surge-high-oil-prices-drive-shift-away-fossil-fuels-2026-06-16_en.

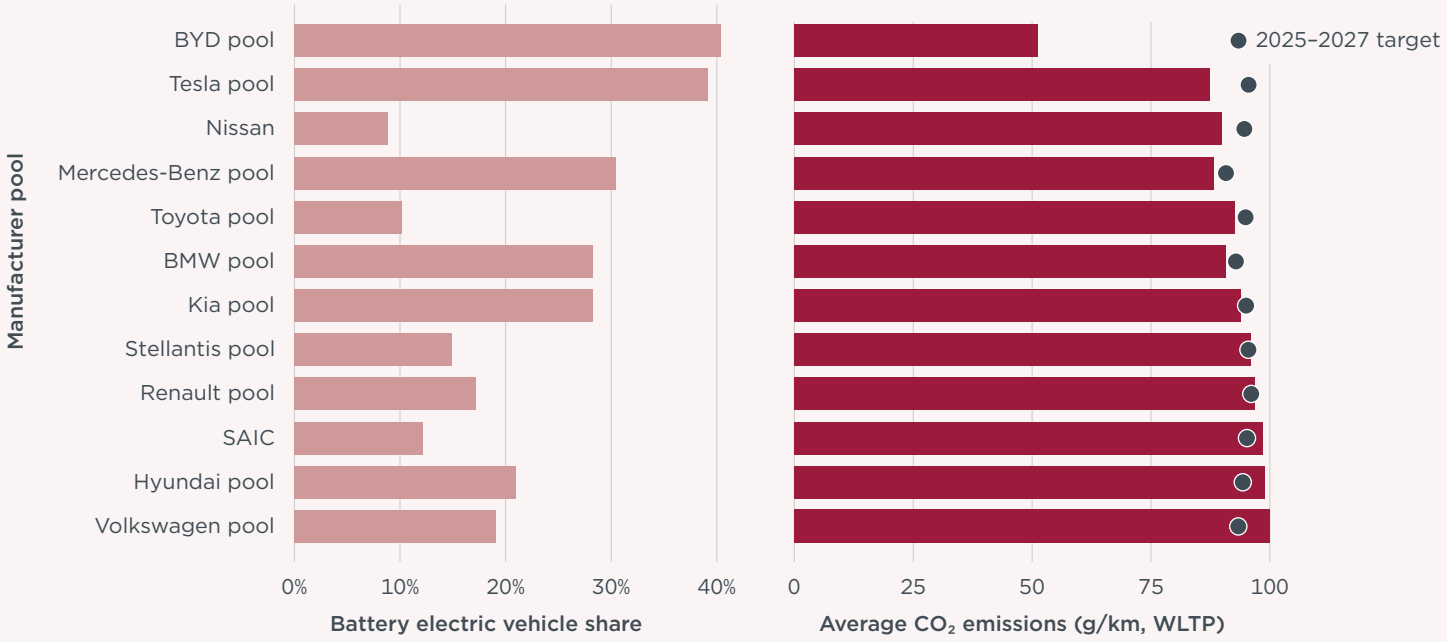
1 MANUFACTURER TARGETS AND BATTERY ELECTRIC VEHICLE UPTAKE

ARE MANUFACTURERS ON TRACK TO MEET CO_2 TARGETS?

Manufacturers of cars and trucks are largely on track to meet the EU's carbon dioxide (CO_2) standards for new vehicles, provided there are continued investments in the transition. For passenger cars, as of June 2026, auto manufacturers were less than 2 g CO_2/km short of the average target of 93 g CO_2/km for the 2025–2027 period (Figure 1, top right). Electric vehicles[2] are a large part of the compliance strategy. Battery electric passenger cars reached a 22% share among new vehicle registrations in the first half (H1) of 2026, with strong performance in large passenger car markets like France (28% of new registrations) and Germany (26%), as well as several smaller markets like Belgium (36%) and Denmark (80%). Adoption has also picked up in Italy (8%) and Spain (10%; Figure 1, bottom). Not only is the market for new battery electric vehicles (BEVs) picking up, the used BEV market is also gaining momentum. In Germany, BEVs accounted for 5.6% of used car ownership transfers in H1 2026, up from 3.2% in H1 2025. For reference, the share for the full year 2025 was 3.6% (Figure 2).[3]

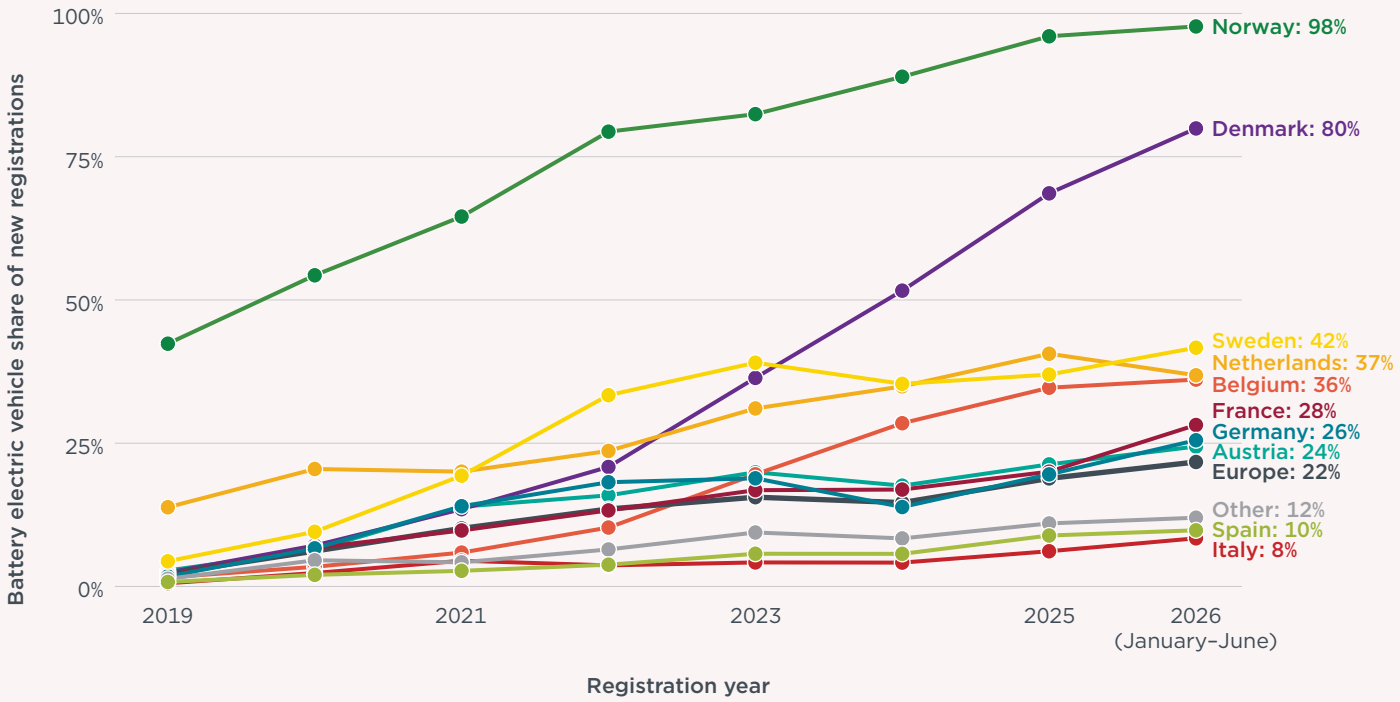
FIGURE 1

BEV share of new registrations by manufacturer pool, January–June 2026 (top left); CO_2 performance by manufacturer pool, January 2025–June 2026 (top right); BEV share of new registrations by country and registration year (bottom)



2 In this paper, "electric vehicles" refers to both BEVs and plug-in hybrid electric vehicles (PHEVs).

3 "Besitzumschreibungen von Kraftfahrzeugen und Kraftfahrzeuganhängern" [Transfers of ownership of motor vehicles and motor vehicle trailers], Kraftfahrt-Bundesamt, accessed August 5, 2026, https://www.kba.de/DE/Statistik/Produktkatalog/produkte/Fahrzeuge/fz9/fz9_gentab.html?nn=864666.



Note: WLTP = Worldwide harmonized Light vehicles Test Procedure

Data source: Sonsoles Díaz and Marie Rajon Bernard, *European Car Market Monitor: June 2026* (International Council on Clean Transportation, 2026), https://theicct.org/publication/european-car-market-monitor-june-2026/.

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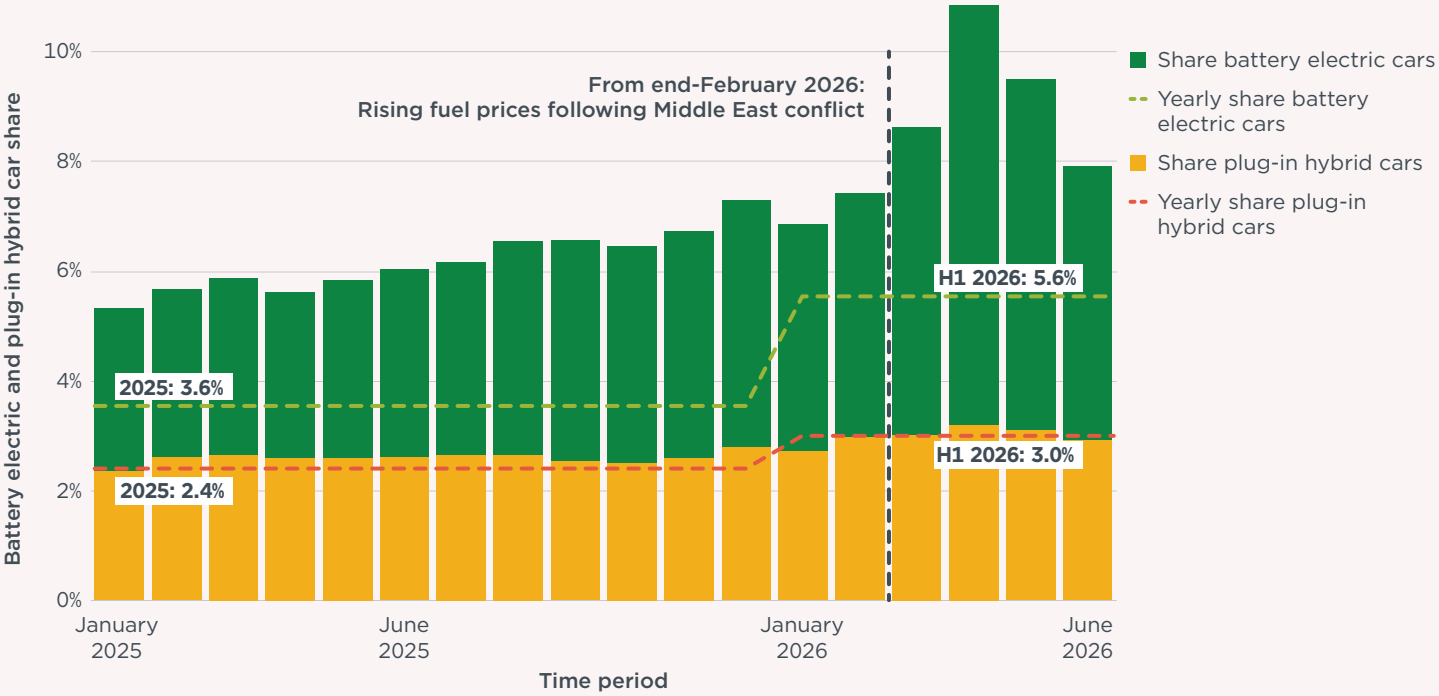
FIGURE 2

Share of BEVs and PHEVs registered in the used passenger car market in Germany since January 2025



Data source: "Besitzumschreibungen von Kraftfahrzeugen und Kraftfahrzeuganhängern" [Transfers of ownership of motor vehicles and motor vehicle trailers], Kraftfahrt-Bundesamt, accessed August 5, 2026, https://www.kba.de/DE/Statistik/Produktkatalog/produkte/Fahrzeuge/fz9/fz9_gentab.html?nn=864666.

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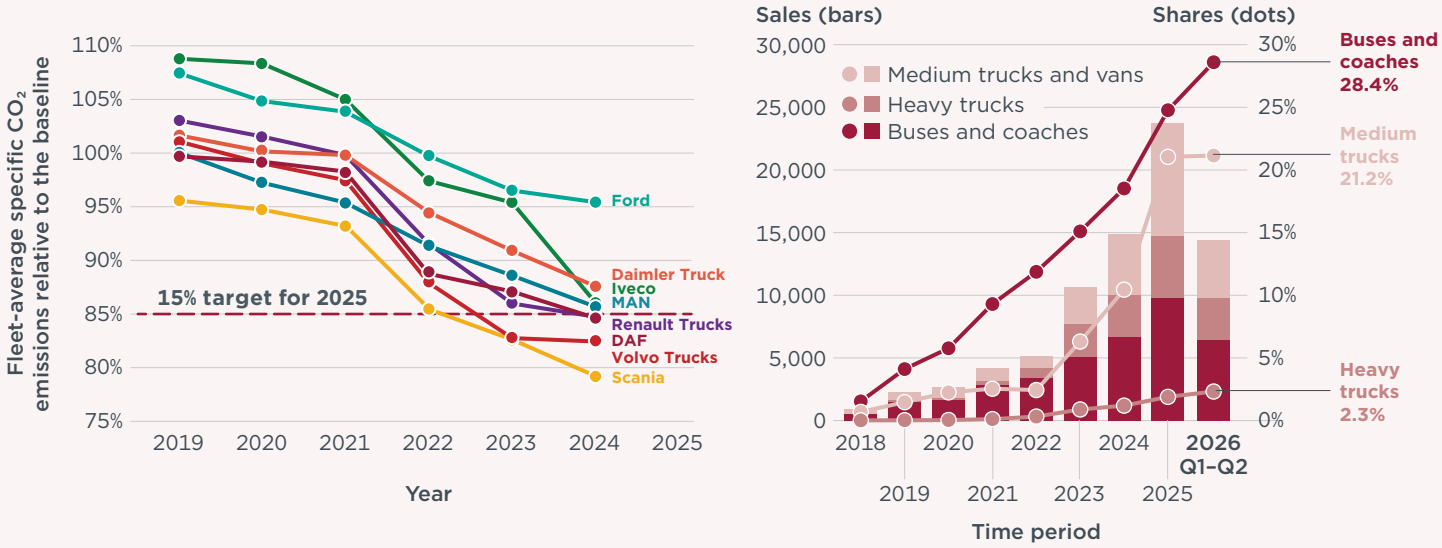
Looking at data for heavy-duty vehicles (HDVs) from 2024 (the latest available from the European Commission), manufacturers have, on average, complied with the 2025 CO_2 emission reduction target of 15% one year early (Figure 3). Buses and coaches are leading the electrification trend, reaching 28% in H1 2026. Sales of battery electric[4] medium trucks and vans (those weighing 3.5–12 tons) grew rapidly as well, more than doubling year-on-year between 2022 and 2025 and reaching 21% of sales in H1 2026. Sales of battery electric heavy trucks (those above 12 tons) nearly doubled from the first quarter (Q1) of 2025 to H1 2026, reaching 2.3% (Figure 3). Germany, the Netherlands, France, and Sweden are currently leading sales volumes of battery electric trucks (BETs).[5]

FIGURE 3

Average CO_2 emissions of heavy-duty vehicle manufacturers through 2024 (left) and zero-emission sales among different heavy-duty vehicle segments in the EU through June 2026 (right)



Data source: Average specific CO_2 emissions for 2019–2023 were based on official values from the European Commission. Data for 2024 were calculated by the ICCT based on European Environment Agency, "Monitoring of CO_2 Emissions from Heavy-Duty Vehicles - Regulation (EU) 2019/1242," July 29, 2026, https://www.eea.europa.eu/en/datahub/datahubitem-view/13f5615a-0524-4a18-9666-7165e55c11ba (left); and Eamonn Mulholland et al., *Race to Zero: EU Heavy-Duty Vehicle Market Development Quarterly (January–June 2026)* (International Council on Clean Transportation, 2026), https://theicct.org/publication/eu-hdv-market-development-quarterly-january-june-2026/ (right).

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4 Although these sales figures officially refer to zero-emission vehicles, the vast majority of these were battery electric vehicles, with extremely limited contributions from other zero-emission technologies like fuel-cell electric vehicles (< 0.5% of new registrations). Thus we refer to zero-emission HDVs as battery electric here and throughout the text.

5 Eamonn Mulholland et al., *Race to Zero: EU Heavy-Duty Vehicle Market Development Quarterly (January–June 2026)* (International Council on Clean Transportation, 2026), https://theicct.org/publication/eu-hdv-market-development-quarterly-january-june-2026/.

2

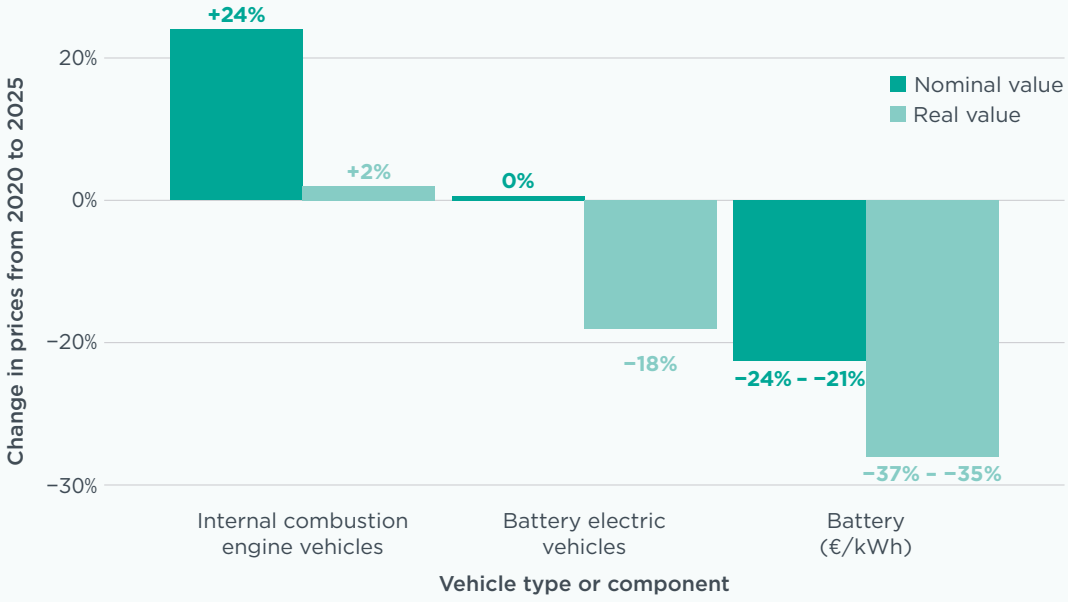
VEHICLE AFFORDABILITY

WHAT ARE THE TRENDS IN VEHICLE TECHNOLOGY AFFORDABILITY?

In Germany, BEV prices decreased by about 18% in real terms—when controlling for vehicle performance and adjusting for inflation—between 2020 and 2025, compared with a 2% increase for combustion engine cars (Figure 4). So, although the nominal median BEV sales price has increased in recent years (+42%), this has been largely driven by a change in vehicle models available in addition to performance improvements such as increased electric ranges (up about 30% in the past 5 years). A large factor behind the 18% cost decrease was a decline in battery costs, the single most expensive component of a BEV. Battery prices globally have fallen by about 35% in the past 5 years. This is reflected in the number of battery electric cars offered on the market: the number of models quadrupled between 2020 and 2025, reaching 159 models in Germany, Europe's largest vehicle market (Figure 5, left), while the number of internal combustion engine vehicle (ICEV) models decreased in the same time period from 275 to 194.[6] The decline in battery prices is also reflected in the number of affordable BEV models available in the EU (defined as those priced below €30,000), which increased to 35 in 2025 (Figure 5, right). While this is an improvement, the number of BEV models available is still more limited than the number of ICEV models in the affordable small and lower-medium segments. Looking within segments, BEVs have reached upfront price parity with ICEVs for the medium, upper-medium, and luxury segments and within all segments compared with plug-in hybrid electric vehicles (PHEVs; Figure 6).

FIGURE 4

Nominal and real price changes between 2020 and 2025 for ICEVs (left) and BEVs in Germany (middle) and for batteries globally (right)

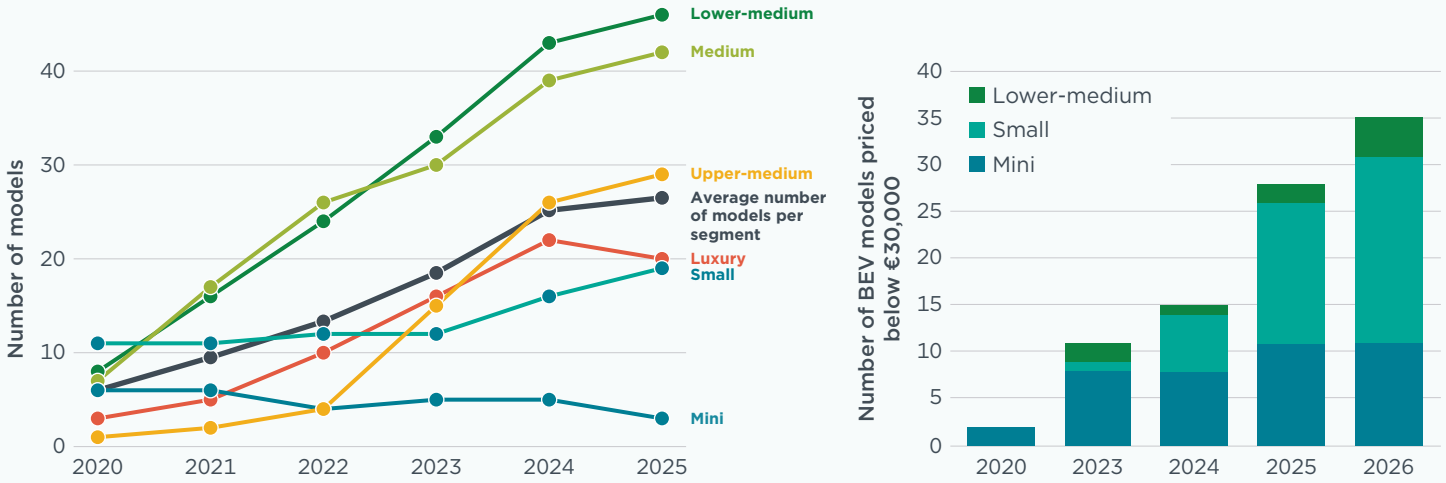


Note: Nominal prices refer to list prices not adjusted for inflation, while real prices are inflation-adjusted. Reported prices are adjusted for model-specific time variation conditional on changes in vehicle characteristics such as mass, power, battery capacity, and range.
Source: Patrick Plötz et al., *Price and Market Trends of Battery Electric and Internal Combustion Engine Vehicles in Germany, 2020–2025* (International Council on Clean Transportation, 2026), https://theicct.org/publication/price-and-market-trends-of-battery-electric-and-internal-combustion-engine-vehicles-in-germany-2020-2025-jul26/.

6 Patrick Plötz et al., *Price and Market Trends of Battery Electric and Internal Combustion Engine Vehicles in Germany, 2020–2025* (International Council on Clean Transportation, 2026), https://theicct.org/publication/price-and-market-trends-of-battery-electric-and-internal-combustion-engine-vehicles-in-germany-2020-2025-jul26/.

FIGURE 5

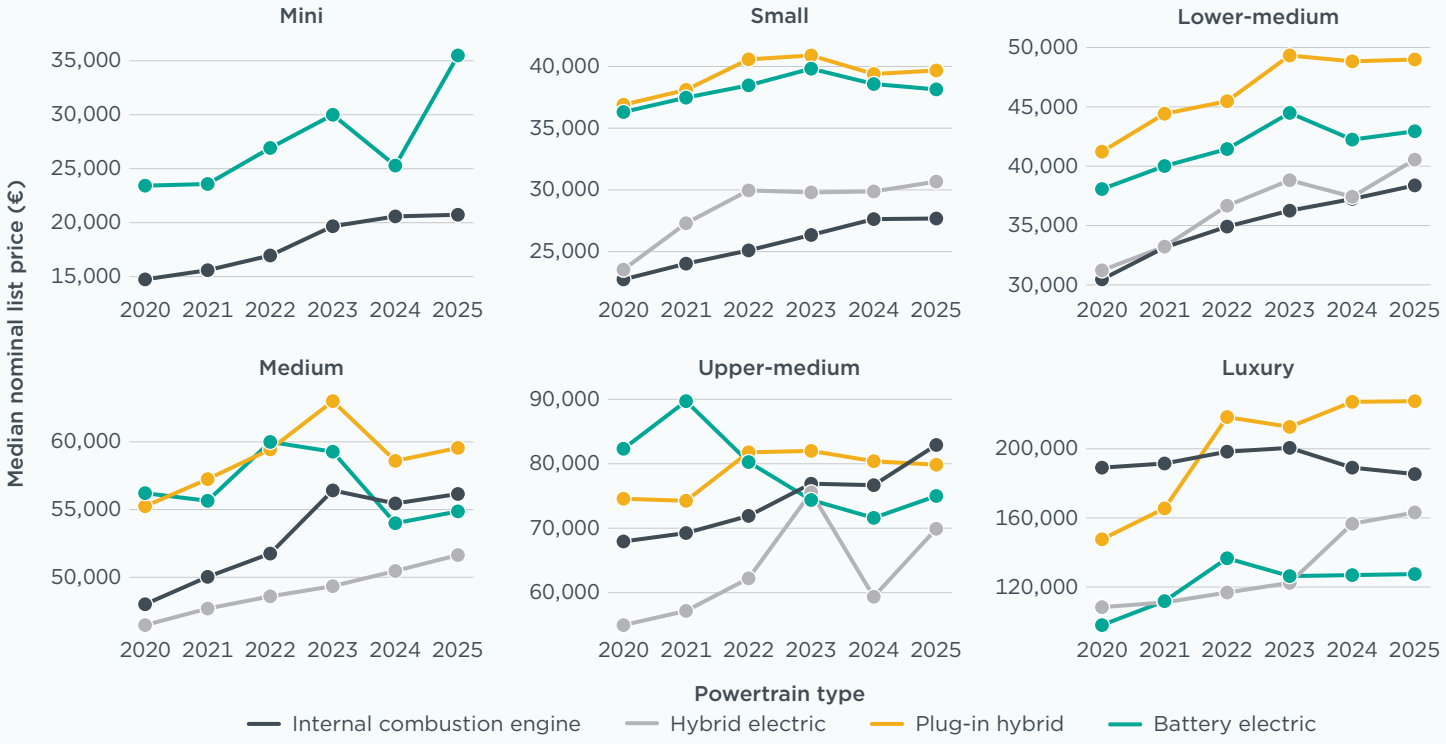
Number of available BEV models by segment, 2020–2025 (left), and number of affordable BEV car models in the EU, 2020–2026 (right)



Source: Plötz et al., *Price and Market Trends* (left).
Data source: "Available Electric Vehicle Models," European Alternative Fuels Observatory, accessed July 1, 2026, https://alternative-fuels-observatory.ec.europa.eu/markets-and-policy/market-and-consumer-insights/available-electric-vehicle-models?page=1 (right)

FIGURE 6

Upfront price development of vehicles in Germany per powertrain in the past 5 years

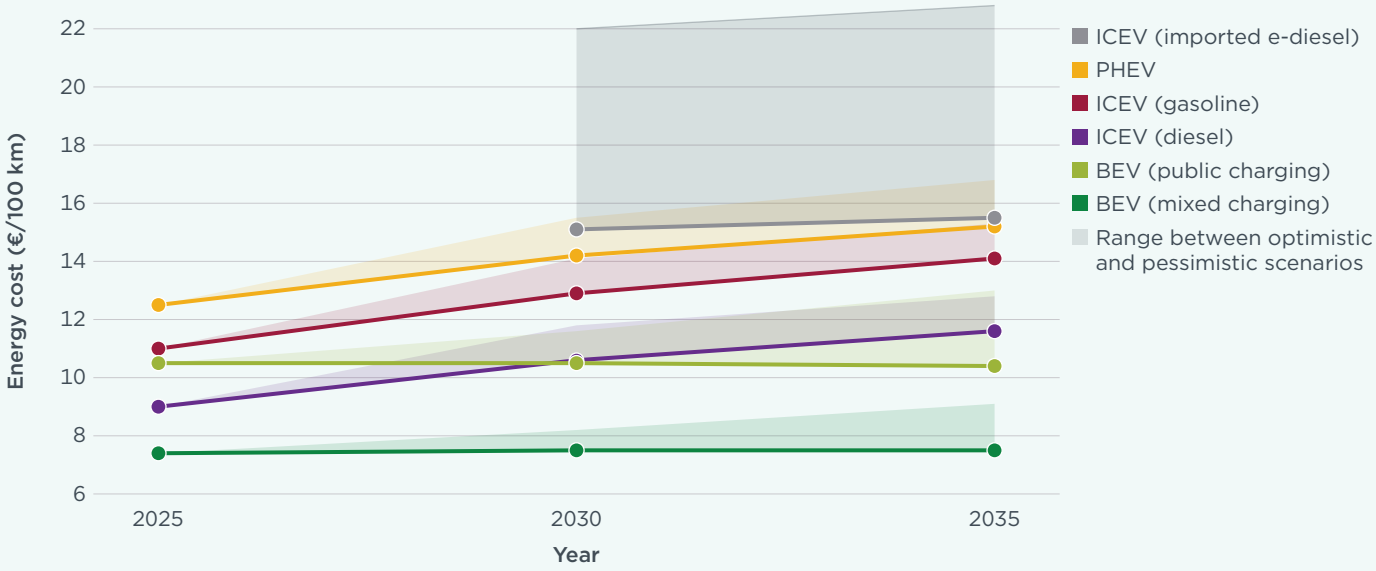


Source: Plötz et al., *Price and Market Trends*.

Another key aspect of vehicle affordability is running costs. BEVs are cheaper than gasoline ICEVs (33% cheaper in 2025), even for drivers relying exclusively on public charging (–5%) and even prior to the 2026 oil crisis (Figure 7). We forecast stable or declining energy costs for BEVs in the future but increasing costs for ICEVs and PHEVs (Figure 7). BEVs are also considerably cheaper to recharge than refueling an ICEV running on e-diesel (about 50%–60% cheaper in the year 2030; Figure 7). Given the limited financial viability and availability of e-fuels (Figure 8), the rest of this transition check therefore focuses on BEVs.

FIGURE 7

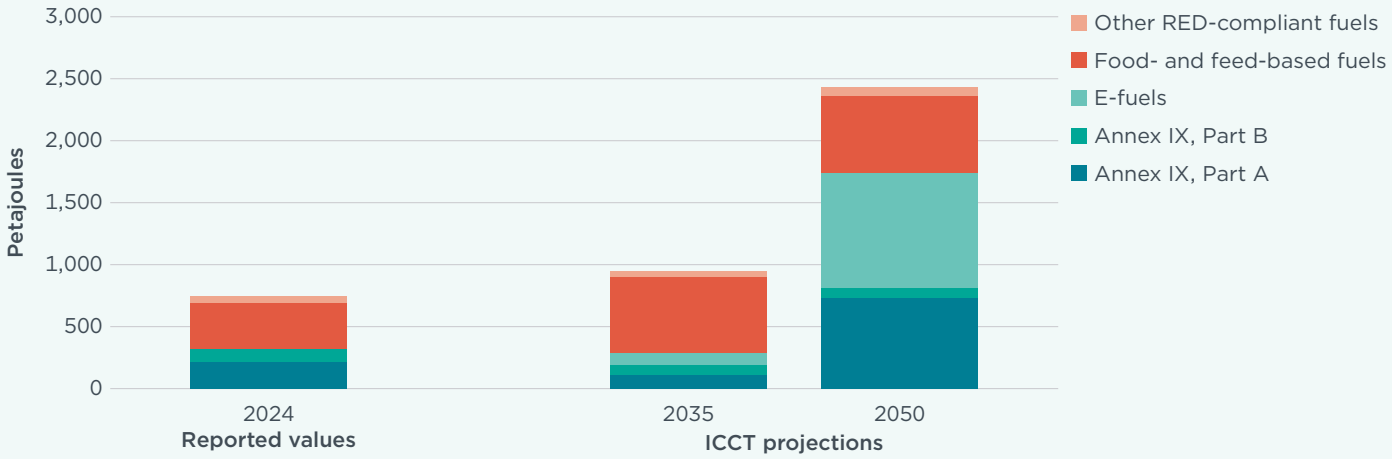
Actual and forecasted energy costs per 100 km for different light-duty vehicle powertrains, 2025–2035



Data source: Kyle Morrison, *From Pump to Plug: Forecasting European Union Passenger Car Fuel and Charging Costs Through 2035* (International Council on Clean Transportation, forthcoming).

FIGURE 8

Renewable Energy Directive compliant renewable fuels in the EU-27 road transport sector



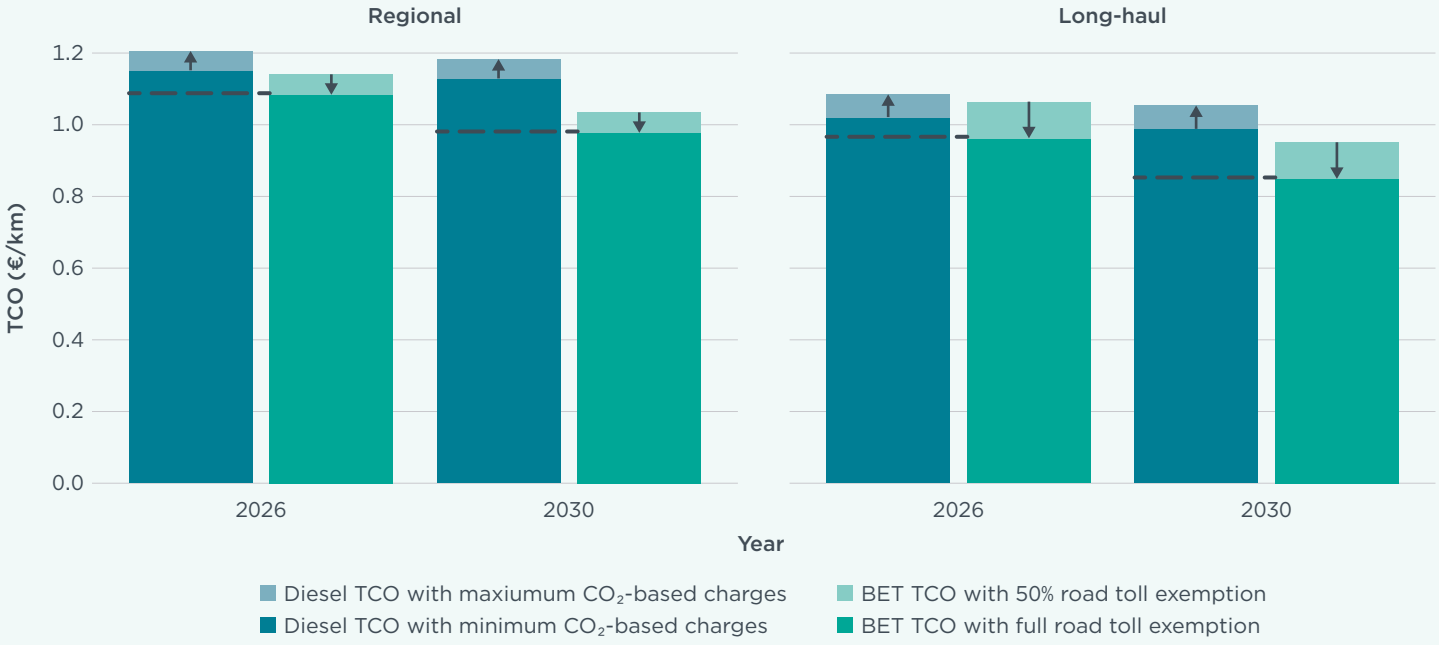
Note: For context, in 2024, the EU consumed about 11,180 PJ for road transport, so these biofuels could only have a niche application, covering just above 6% of demand.[7]
Source: Eamonn Mulholland et al., *Risks of the Fuel Crediting System in Europe's Light-Duty CO_2 Standards* (International Council on Clean Transportation, 2026), https://theicct.org/publication/risks-of-the-fuel-crediting-system-in-europes-light-duty-co2-standards-aug26/.

7 Jakob Schmidt and Gabe Hillman Alvarez, *Roadmap v2.9 Documentation*, model documentation, International Council on Clean Transportation, 2025, https://theicct.github.io/roadmap-doc/versions/v2.9/

Together, upfront and running costs account for a large part of a vehicle's total cost of ownership (TCO). This is particularly relevant for BETs, because fleet operators are largely driven by TCO when deciding which vehicles to operationalize in their fleets. In many cases, electric depot-based regional trucks are already cost competitive with diesel alternatives on a TCO basis, partly due to private depot charging prices, the decrease in battery prices, and existing policies.[8] Long-haul segments may be cost competitive as soon as 2030, provided policy levers like CO_2 charges and differentiated road tolls are implemented. In Germany, where CO_2 charges have already been employed, both regional and long-haul BETs are already cheaper on a TCO basis than diesel trucks (Figure 9).

FIGURE 9

Total cost of ownership for a regional and long-haul diesel (blue) and battery electric (green) heavy-duty vehicle in Germany with different policy options



Data source: Albert Alonso-Villar, *Fast-Tracking the Eurovignette Directive: How Road Toll Exemptions Can Accelerate Zero-Emission Truck Adoption* (International Council on Clean Transportation, 2026), https://theicct.org/fast-tracking-the-eurovignette-directive-how-road-toll-exemptions-can-accelerate-zero-emission-truck-adoption-apr26/.

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8 Albert Alonso-Villar, *Fast-Tracking the Eurovignette Directive: How Road Toll Exemptions Can Accelerate Zero-Emission Truck Adoption* (International Council on Clean Transportation, 2026), https://theicct.org/fast-tracking-the-eurovignette-directive-how-road-toll-exemptions-can-accelerate-zero-emission-truck-adoption-apr26/.

3

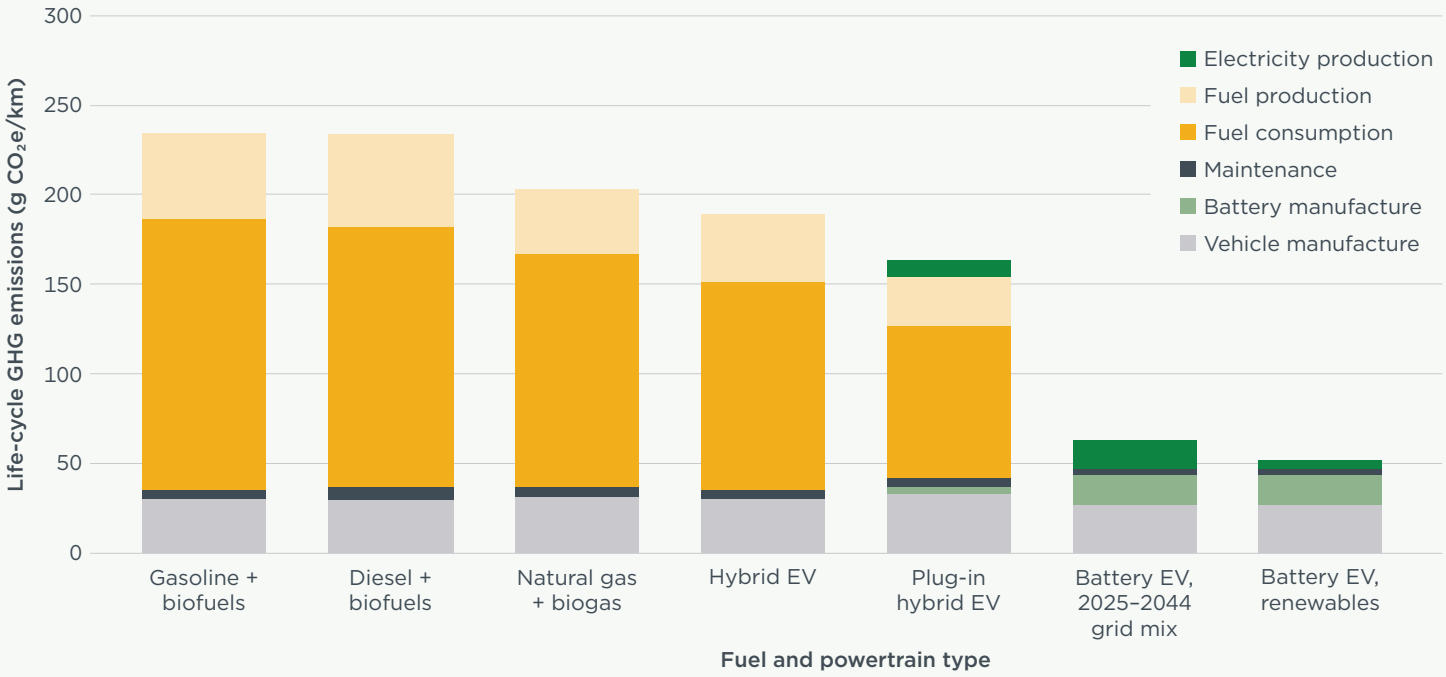
CLIMATE AND HEALTH IMPACTS

WHICH VEHICLE POWERTRAIN OFFERS THE GREATEST CLIMATE AND HEALTH BENEFITS?

Among all financially viable options for cars and trucks, BEVs deliver the largest climate and public health benefits compared with ICEVs. Non-battery electric powertrains not only have a negative climate impact but also contribute to air pollution and associated public health burdens: road transport generates fine particulate matter ($PM_{2.5}$), ozone (O_3), and nitrogen dioxide (NO_2), which were responsible for an estimated 74,000 premature deaths in Europe (equivalent to 1 premature death every 7 minutes) and 11,000 cases of pediatric asthma (1 new pediatric asthma case every 50 minutes) in 2024.[9] In terms of climate impact, life-cycle greenhouse gas emissions for a BEV car are 73% lower than those from a gasoline-powered car, while emissions for a battery electric long-haul truck are 86% lower than those from an internal combustion engine truck fueled by diesel (Figure 10 and Figure 11).

FIGURE 10

Passenger car life-cycle assessment for different fuel and powertrain types, 2025

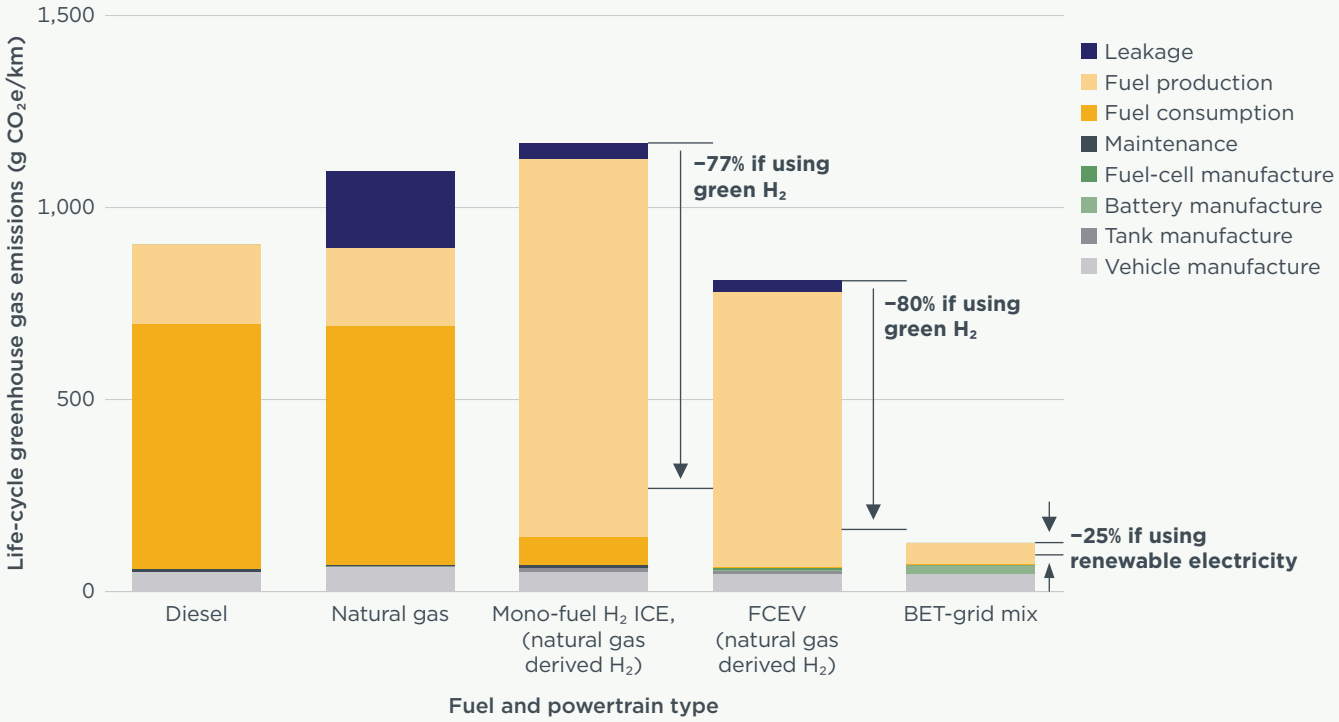


Source: Marta Negri and Georg Bieker, *Life-Cycle Greenhouse Gas Emissions from Passenger Cars in the European Union* (International Council on Clean Transportation, 2025), https://theicct.org/publication/electric-cars-life-cycle-analysis-emissions-europe-jul25/.

9 Lingzhi Jin et al., *Health Benefits of Zero-Emission Transport Through 2050* (International Council on Clean Transportation, 2026), https://theicct.org/publication/health-benefits-of-zero-emission-transport-through-2050/.

FIGURE 11

Life-cycle greenhouse gas emissions for a 4 × 2 tractor-trailer in the EU for different fuel and powertrain types, 2030



Source: Life-cycle assessment methodology comes from Adrian O'Connell et al., *A Comparison of the Life-Cycle Greenhouse Gas Emissions of European Heavy-Duty Vehicles and Fuels* (International Council on Clean Transportation, 2023), https://theicct.org/publication/lca-ghg-emissions-hdv-fuels-europe-feb23/.

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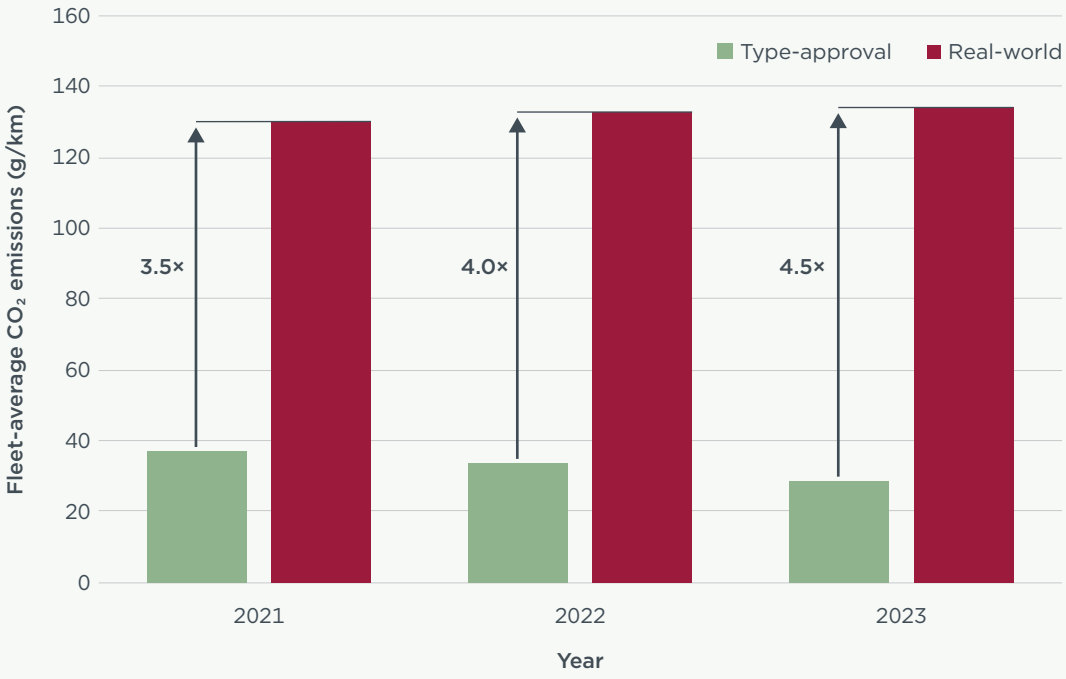
When considering the climate and health benefits of different powertrains, it is important to assess real-world rather than type-approval emissions. This is particularly relevant for PHEVs in the EU, which show a significant real-world gap: real-world CO_2 emissions are 4.6 times higher than type-approval emissions (Figure 12), and the gap is widening despite an increase in the average electric driving range of PHEVs.[10] This gap suggests that, on average, PHEVs currently do not offer the real-world emission savings over ICEVs that are implied by the type-approval values.

10 Sonsoles Díaz et al., *On the Way to 'Real-World' CO_2 Values? Evidence from 2021–2023 On-Board Fuel Consumption Monitoring Data in the European Passenger Car Market* (International Council on Clean Transportation, 2026), https://theicct.org/publication/real-world-co2-emission-values-vehicles-europe-jun26/.

FIGURE 12

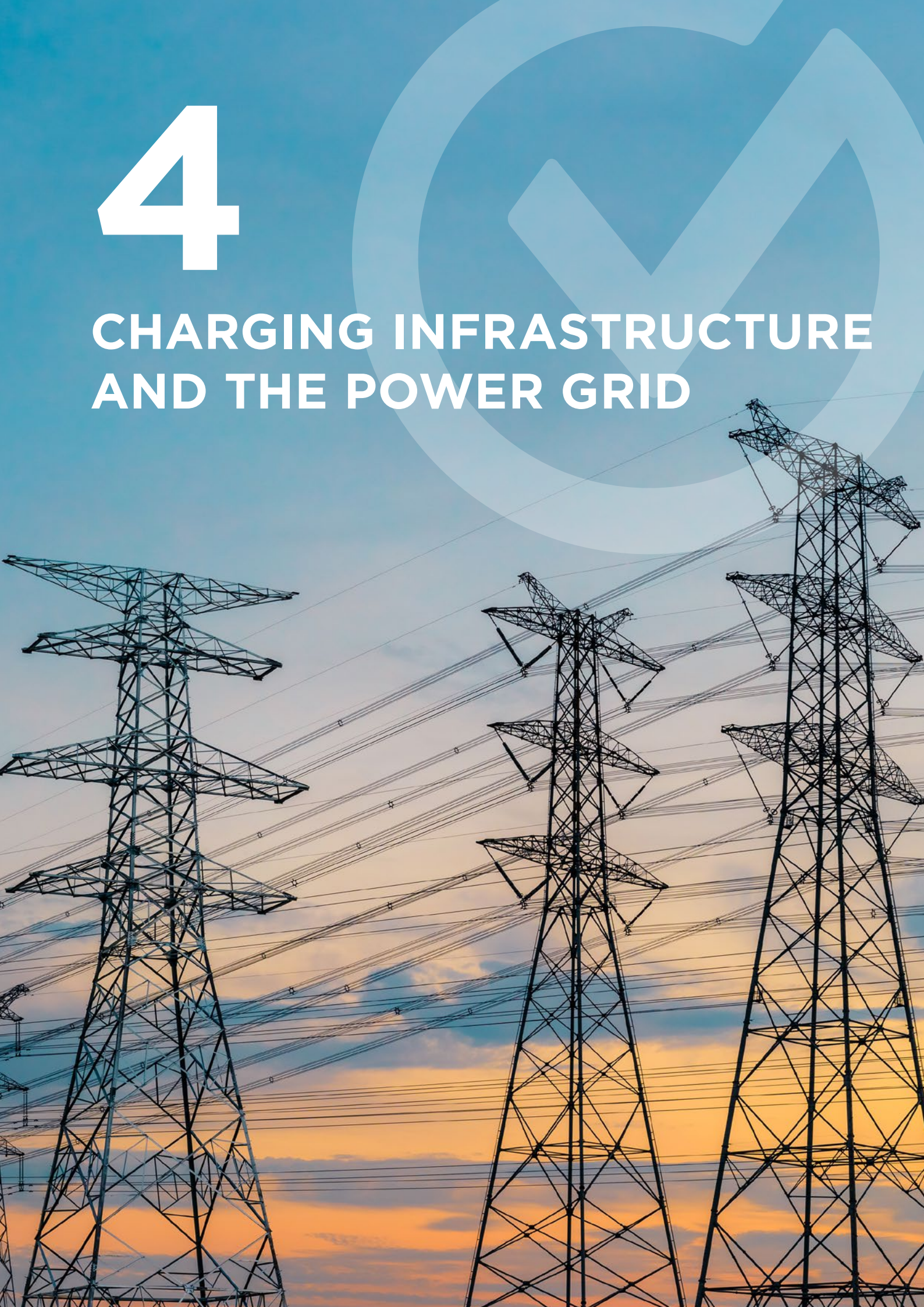
Gap between real-world and type-approval values for PHEVs in the EU



Source: Jan Dornoff, *Fair Game: Restoring Technology Neutrality Through Plug-In Hybrid Utility Factor Adjustment* (International Council on Clean Transportation, forthcoming).

4

CHARGING INFRASTRUCTURE AND THE POWER GRID

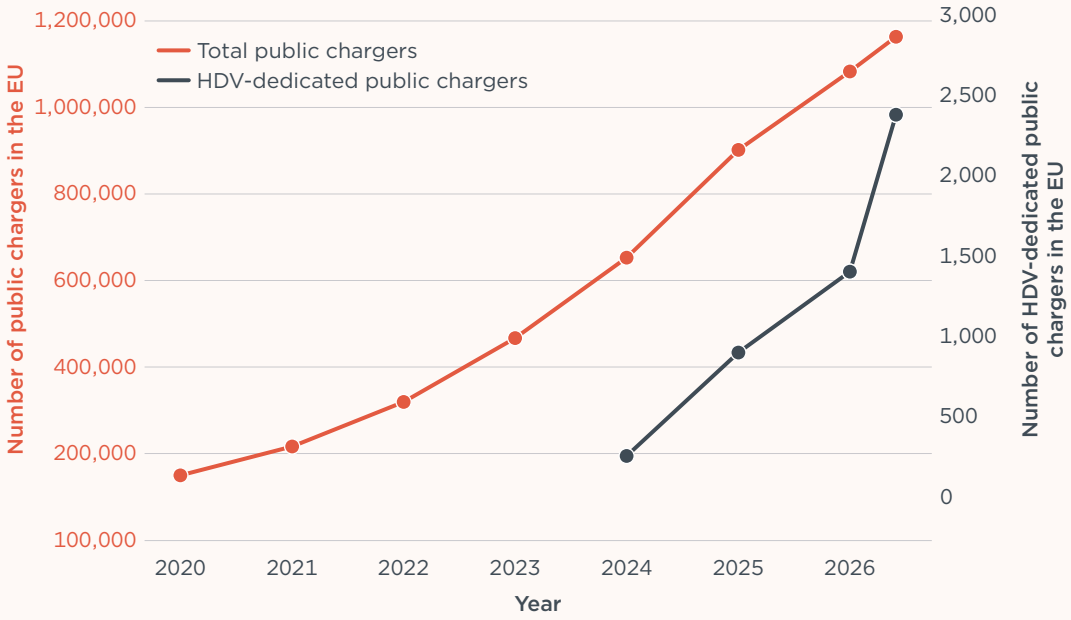


ARE EUROPE'S EV CHARGING INFRASTRUCTURE AND ELECTRICAL POWER GRID READY FOR THE TRANSITION?

The number of public chargers in the EU has grown almost eightfold since 2020, reaching 1.16 million by June 2026, indicating that there are sufficient public chargers for the current EU fleet on the road.[11] Public charging infrastructure is mostly composed of chargers for light-duty vehicles (LDVs), with an additional 2,450 HDV-dedicated chargers (Figure 13). This uptake is in line with the Alternative Fuels Infrastructure Regulation (AFIR) fleet-based targets, with all Member States except Malta exceeding their targets (Figure 14). Regarding highway network coverage (i.e., TEN-T[12] coverage), direct current (DC) chargers with 150 kW of power or more cover 92% of the network[13] and HDV-dedicated chargers cover 16% (Figure 15). Charger distribution among Member States is uneven but consistent with where vehicle markets are largest and EV adoption is strongest: 55% of public chargers are concentrated in the Netherlands, Germany, and France.[14] However, Eastern European countries lead in AFIR fleet-based targets for LDVs (Figure 14).

FIGURE 13

Public charging infrastructure deployment in the EU since 2020 for light- and heavy-duty vehicles



Data source: Eco-Movement, *Public Charging Infrastructure Data*, dataset, accessed July 1, 2026, https://www.eco-movement.com (for historical data on charging infrastructure since 2020).

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11 Prerna Kataria and Marie Rajon Bernard, *Spatio Temporal Analysis of EV Charging Demand and Smart Load Management in Europe* (International Council on Clean Transportation, forthcoming); and Milence, "Milence White Paper Assesses Infrastructure Readiness and Calls for Targeted Action to Accelerate the Pace," press release, July 10, 2025, https://milence.com/newsroom/milence-white-paper-assesses-infrastructure-readiness-and-calls-for-targeted-action-to-accelerate-the-pace/.

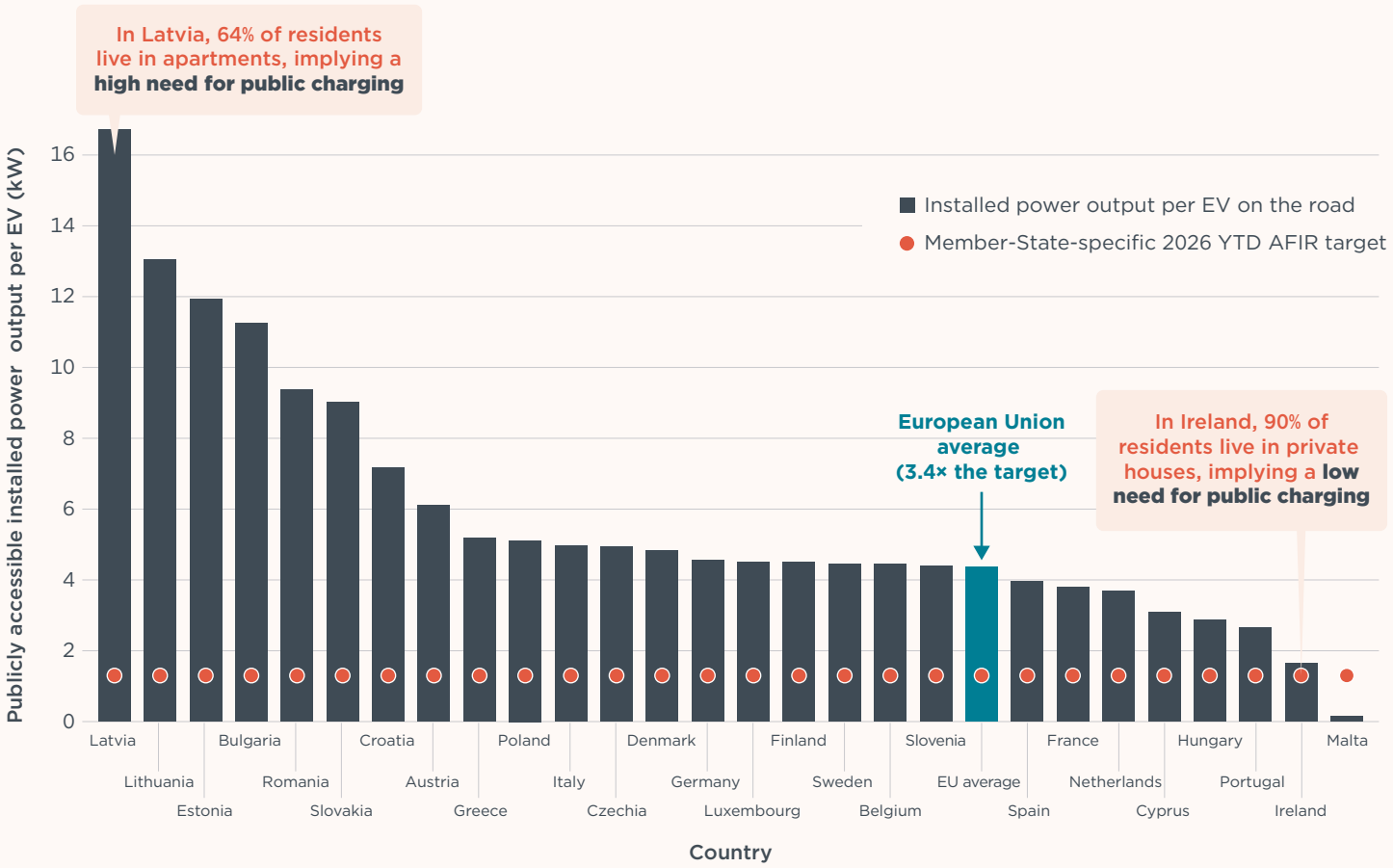
12 The Trans-European Network for Transport (TEN-T) is a network of European roads linking urban nodes as well as railways, inland waterways, short sea-shipping routes, maritime and inland ports, airports, and terminals. In this context, we focus on the road network.

13 A portion of the network is considered covered if there is a charger situated within 1 km of the TEN-T network every 60 km or less.

14 Sonsoles Díaz and Marie Rajon Bernard, *European Car Market Monitor: June 2026* (International Council on Clean Transportation, 2026), https://theicct.org/publication/european-car-market-monitor-june-2026/.

FIGURE 14

Public charging capacity in kW per EV for LDVs, June 2026



Data source: Eco-Movement, *Public Charging* (for historical data on charging infrastructure since 2020); AFIR target calculations based on vehicle on road data from "Vehicle and Fleet," European Alternative Fuels Observatory, accessed July 1, 2026, https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/european-union-eu27/vehicles-and-fleet.

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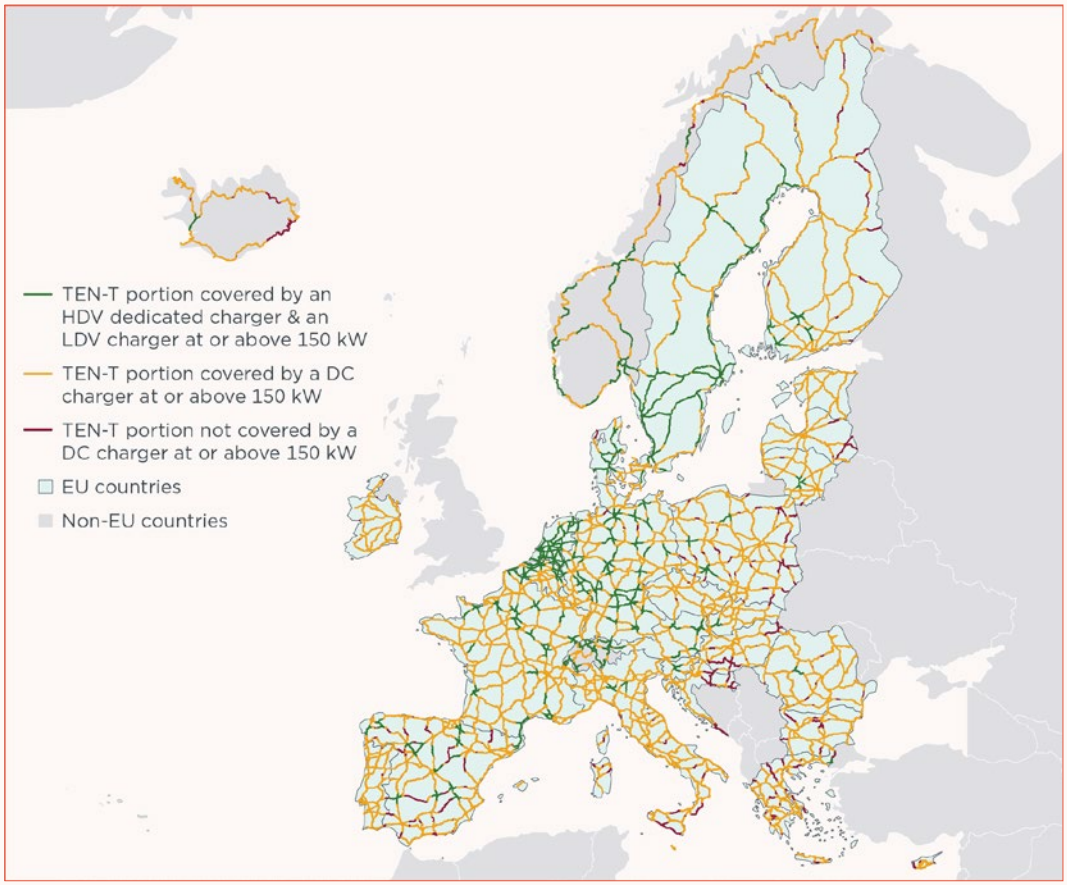
FIGURE 15

Portions of the TEN-T network covered by a DC charger



Note: We consider the network covered if there is a charger situated within 1 km of the TEN-T network every 60 km or less.
Data source: Charging infrastructure historical data (since 2020) came from Eco-Movement, *Public Charging*, and ICCT data processing.

In June 2026, ad hoc charging rates across the EU were on average €0.50/kWh for alternating current (AC) charging and €0.62/kWh for DC charging, including value-added tax (Figure 16). Although in most cases it is economically advantageous for car owners to switch from an ICEV to a BEV even when relying exclusively on public charging (see the section on vehicle affordability), this is not yet the case for long-haul trucks reliant on public charging. This is because there is a substantial difference between private and public charging rates, with public charging rates about 2 times higher than private rates.[15]

As an indication of the potential for lower charging rates across all chargers and segments, conditions enabling smart and bidirectional charging are improving, with 304 dynamic time-of-use tariffs[16] in place as of 2025 and expanding smart meter rollout underway. Reflecting these improvements, 63% of European customers had a smart meter by the end of 2025, although there was significant geographical variation, with smart meters in use by only 5.5% of customers in Germany.[17] These developments can not only lower costs for consumers and the grid but also foster EU energy resilience. We estimate that there will

15 Eurostat, *Electricity Price Statistics*, statistical data, April 2026, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Electricity_price_statistics#Electricity_prices_for_non-household_consumers.

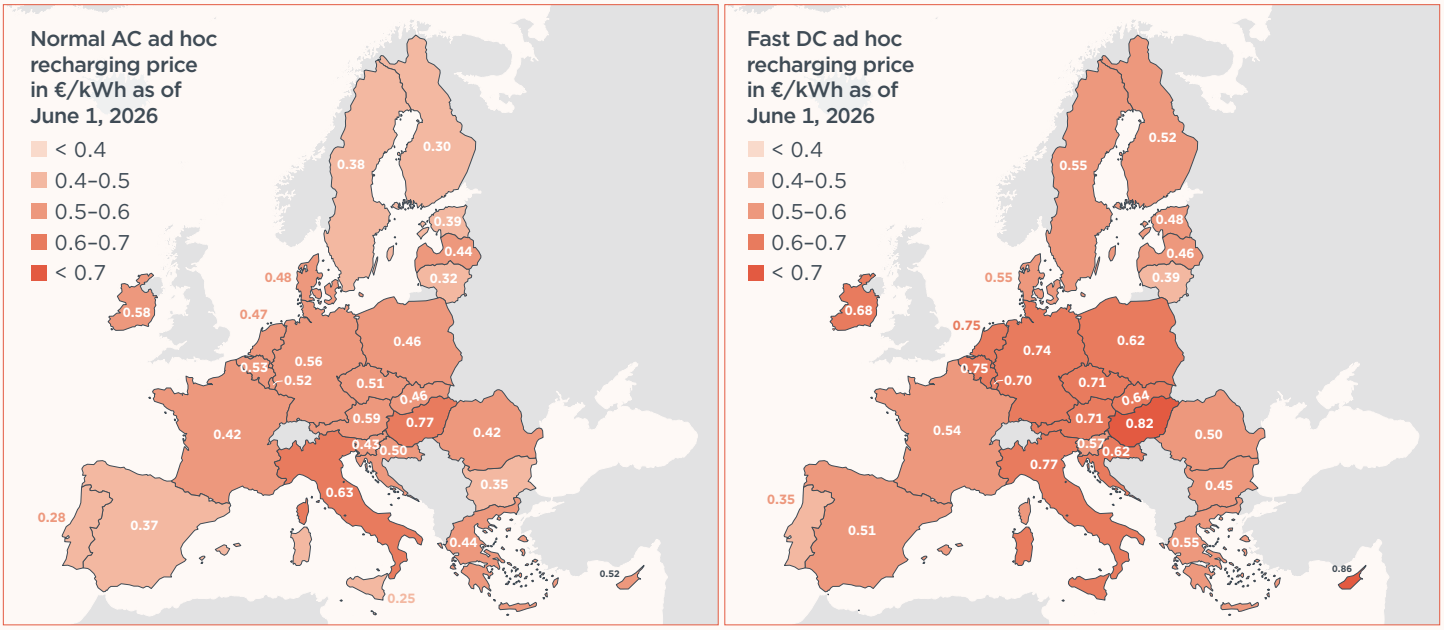
16 Jaap Burger, *Imagine All the People: Strong Growth in Tariffs and Services for Demand-Side Flexibility in Europe* (Regulatory Assistance Project, March 12, 2025), https://www.raponline.org/toolkit/strong-growth-in-tariffs-and-services-for-demand-side-flexibility-in-europe/.

17 European Commission, *Country Report—Germany* (June 3, 2026), https://economy-finance.ec.europa.eu/economic-surveillance-eu-member-states/country-pages-including-country-reports/country-report-germany_en.

be a 6% reduction in the European peak power output thanks to smart charging in 2035.[18] Vehicle-to-grid (V2G) technology adds further potential for energy resilience, from storing renewable energy and avoiding curtailment to providing movable backup power (e.g., 10% V2G leads to 9% peak load reduction in 2040 in the French case of Essonne).[19]

FIGURE 16

Average AC (left) and DC (right) public ad hoc charging prices in the EU, June 2026



Data source: Eco-Movement, *EV Charging Price Data*, pricing dataset, accessed July 15, 2026, https://www.eco-movement.com.

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18 Kataria and Rajon Bernard, *Spatio Temporal Analysis*.

19 Julia Hildermeier et al., *Savings from Smart Charging Electric Cars and Trucks in Europe: A Case Study for France in 2040* (International Council on Clean Transportation, 2025), https://theicct.org/publication/smart-charging-cars-trucks-europe-mar25/.

5

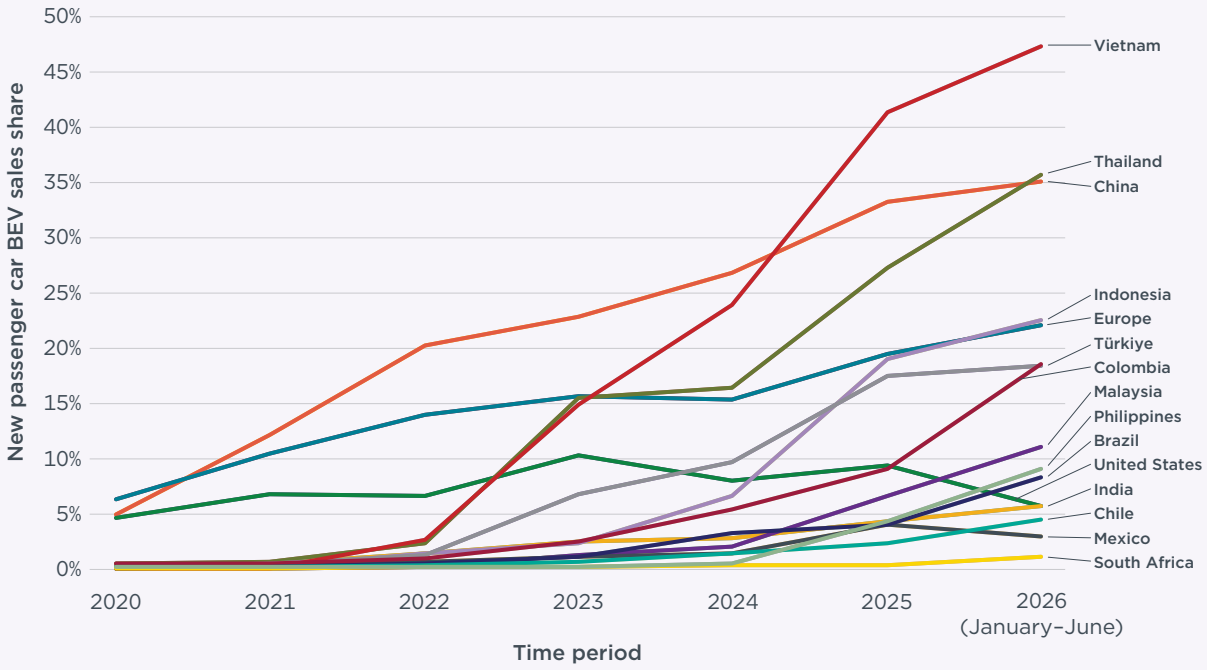
SUPPLY CHAIN AND INDUSTRIAL COMPETITIVENESS

CAN ELECTRIFYING THE AUTOMOTIVE SECTOR BOOST EUROPE'S INDUSTRIAL COMPETITIVENESS?

The rapid transition to BEVs is securing both Europe's long-term energy resilience and automotive industrial competitiveness internationally, thereby generating lasting jobs in the automotive sector. In terms of energy independence, the EU imported €336.7 billion worth of petroleum oils and natural gas in 2025—amounting to 97% of its oil and petroleum products consumption—while it was a net exporter of electricity.[20] BEV uptake in new passenger car sales is not just concentrated in Europe but is also evident across the globe. Vietnam, for example, reached a 47% battery electric share among new passenger car registrations in the first half of 2026 (Figure 17), and China reached a 26% battery electric share in new truck and bus sales in 2025.[21] At the same time, the production mix by powertrain in the EU is increasingly electric, with BEVs accounting for 19% of total passenger car production in 2025 (Figure 18). Although the EU exports some domestically produced BEVs and imports newly registered BEVs, numbers for EU BEVs and overall car production are roughly aligned with the number of new registrations (11 million new cars were registered and produced in 2025 and 19% of both cars produced and new cars registered were BEVs).[22] By Member State, Germany was by far the largest producer of BEVs and PHEVs in the EU, accounting for 56% of total BEV and PHEV production across car-producing Member States in 2025.[23]

FIGURE 17

Passenger battery electric vehicle new sales (or new registrations depending on the region) in different markets



Data source: Ilma Fadhil and Chang Shen, *Global Electric Vehicle Market Monitor for Light-Duty Vehicles, 2025* (International Council on Clean Transportation, 2026), https://theicct.org/publication/global-ev-market-monitor-for-ldvs-2025/ (for data through 2025) and "EV-Volumes," JD Power, accessed July 1, 2026, https://www.ev-volumes.com/ (for data from H1 2026).

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20 "EU Imports of Energy Products Decreased Again in 2025," *Eurostat*, March 25, 2026, https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20260325-3.

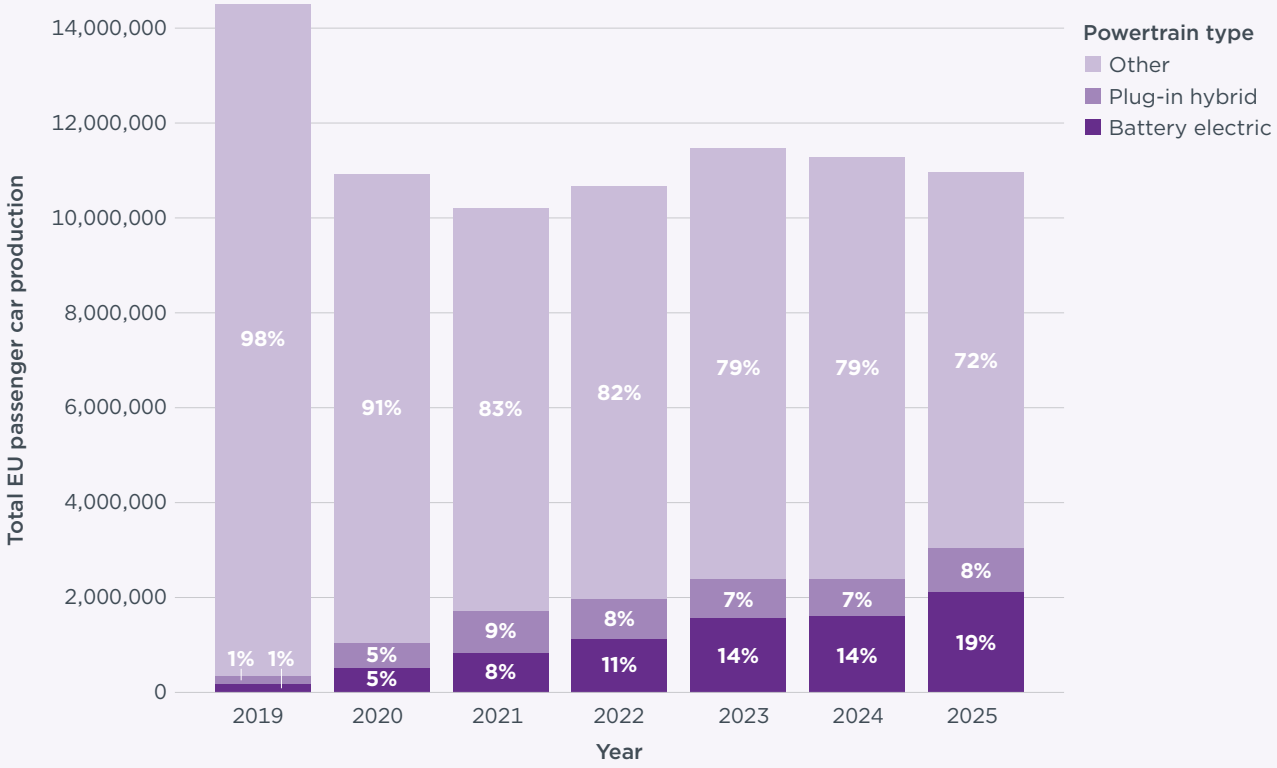
21 "Global EV market monitor trucks and buses," International Council on Clean Transportation, accessed July 27, 2026, https://theicct.org/global-ev-market-monitor-trucks-buses/

22 Ilma Fadhil and Chang Shen, *Global Electric Vehicle Market Monitor for Light-Duty Vehicles, 2025* (International Council on Clean Transportation, 2026), https://theicct.org/publication/global-ev-market-monitor-for-ldvs-2025/.

23 Sandra Wappelhorst and Sonsoles Díaz, *Passenger Car Production and Electrification in the European Union, Market Spotlight* (International Council on Clean Transportation, forthcoming).

FIGURE 18

Yearly production of passenger cars in the EU by powertrain, 2019–2025



Source: Sandra Wappelhorst and Sonsoles Díaz, *Passenger Car Production and Electrification in the European Union, Market Spotlight* (International Council on Clean Transportation, forthcoming).

Today the EU produces about half of the battery cells installed in EU-manufactured BEVs, with some capacity coming from foreign direct investments from Asia.[24] Alongside this, the Europe-wide rollout of projects spanning the entire supply chain, from mining to recycling, is accelerating (Figure 19). Although all installed cell production capacities in the EU in 2025 were technically sufficient to meet electric vehicle demand, low capacity-utilization rates[25] limited cell production output due to an uncertain domestic demand outlook, technical difficulties in ramping up production, and higher prices when compared with international competition (Figure 20). Still, all announced cell production capacities for 2030 would be sufficient to meet vehicle demand, provided the capacity utilization of gigafactories increases.[26] Looking upstream, the EU has ample capacity of announced cathode active material and separator production to meet projected electric vehicle demand in 2030, although announced anode active material and electrolyte production capacities are limited.[27]

24 The combined nameplate capacity of battery manufacturers with headquarters in China, Japan, and South Korea made up 78% of the total installed cell production capacity in the EU in 2025 (69% from South Korea, 9% from China, and < 1% from Japan). See IEA, *Global EV Outlook 2026: Growing Sales amid an Energy Crisis* (May 2026), https://iea.blob.core.windows.net/assets/857aa690-2a43-453f-9f12-147cc8f0a1dd/GlobalEVOutlook2026.pdf.

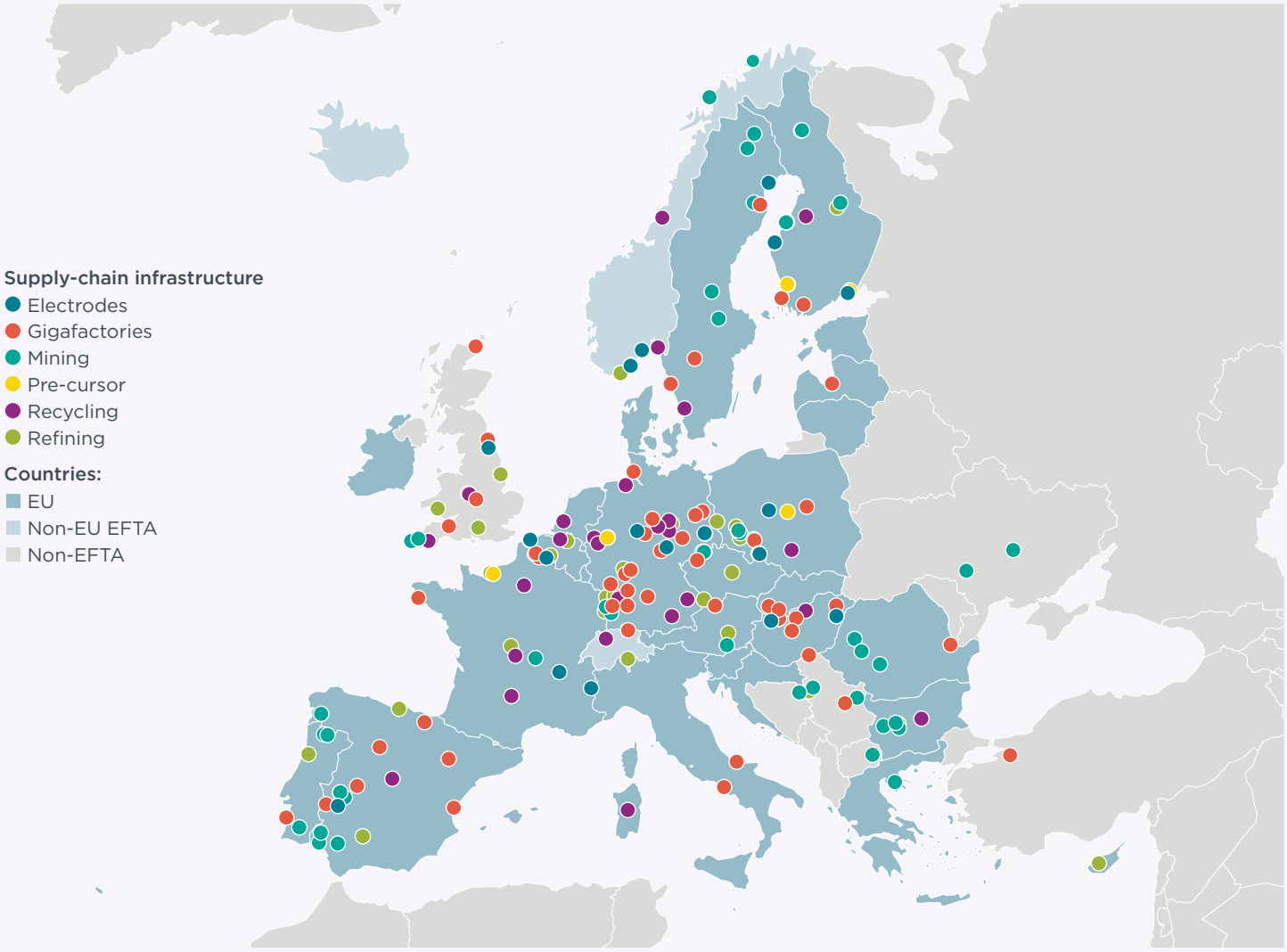
25 Eyal Li et al., *Union Origin and Low-Carbon Steel Requirements in the EU's Industrial Accelerator Act* (International Council on Clean Transportation, forthcoming).

26 Li et al., *Union Origin and Low-Carbon Steel Requirements*.

27 Li et al., *Union Origin and Low-Carbon Steel Requirements*.

FIGURE 19

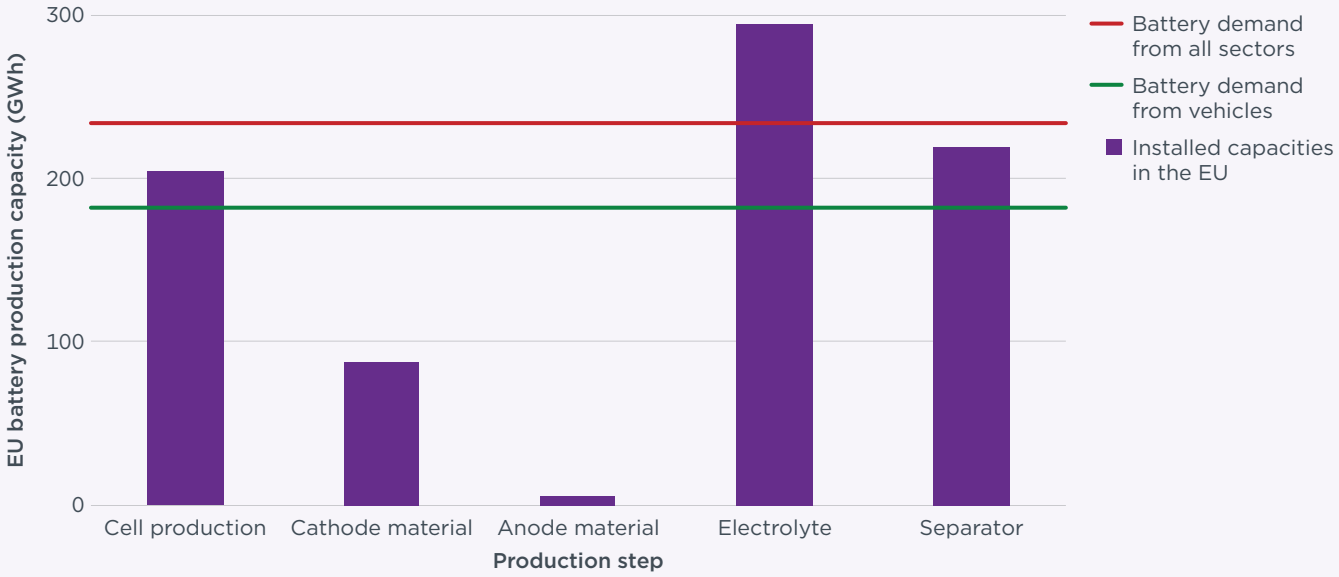
Location of BEV supply chain industries at all development stages (announced to operational)



Data source: European Battery Tracker, *New Automotive*, accessed July 1, 2026, https://battery-tracker.newautomotive.org.

FIGURE 20

EU production capacities in 2025 compared with EU battery demand



Source: Eyal Li et al., *Union Origin and Low-Carbon Steel Requirements in the EU's Industrial Accelerator Act* (International Council on Clean Transportation, forthcoming).

These developments in the battery supply chain are translating into job growth in the sector, with an estimated 62,300 battery supply chain jobs in Europe as of 2025.[28] The automotive sector is undergoing a transformation not only related to the powertrain shift but also due to global trends like digitalization, automation, and geopolitical disruptions. As skills and employment patterns are being reshaped, specialized workforce training and reskilling programs are increasingly in demand and are starting to gain momentum. Although not all programs mitigate the financial cost of displacement—after successful retraining, displaced automotive workers often see their earnings remain 20%–25% below the income of comparable non-displaced workers 6 years later—participation in employer-paid training is significantly higher in car manufacturing (50%) compared with other manufacturing subsectors.[29] Additionally, 71% of car manufacturing workers report that organizational changes were supported by formal training.[30]

28 European Battery Tracker, *Jobs Calculation Methodology*, model documentation, June 9, 2025, https://battery-tracker.newautomotive.org/jobs-calculation-methodology.

29 Organisation for Economic Co-operation and Development, *Adjusting to Structural Changes: A Case Study of the Automotive Sectors* (March 19, 2026).

30 Eurofound, *Crisis in the EU Automotive Industry: Can the Sector Remain Competitive in the Context of the Twin Transitions?* (December 2, 2025), https://www.eurofound.europa.eu/en/publications/all/crisis-in-the-eu-automotive-industry-can-the-sector-remain-competitive-in-the-context-of-the-twin-transitions.

Summary table, EV Transition Check		
Key performance indicator	**Status**	
1. Manufacturer targets and BEV uptake	Automakers are on track to meet the EU's CO_2 performance targets for new vehicles, relying mostly on electric cars as a compliance strategy. On average, truck manufacturers have met their 2025 target 1 year early.	
Car manufacturer average CO_2 emission level of new vehicles	**+2 g/km** Distance to target (passenger cars)	EU standards help reduce CO_2 emissions and push for technology innovation.
BEV shares in Europe	**22%** New BEV registration share for passenger cars	BEV market shares are picking up across Europe.
Truck manufacturer compliance with CO_2 targets	**15% target** Compliance achieved 1 year early for heavy trucks on average	Buses and coaches are leading the electrification trend and battery electric medium- and heavy-duty truck sales are increasing consistently.
2. Vehicle affordability	BEVs today have lower driving costs than other powertrains. Because of decreasing battery prices, the number of affordable electric cars is expected to continue to rise. In many cases, regional electric depot-based trucks are already cost competitive with diesel alternatives on a total cost of ownership (TCO) basis, and long-haul segments may be cost competitive as soon as 2030.	
BEV price evolution	**–18%** BEV price in real terms when controlling for vehicle performance between 2020 and 2025 in Germany	The delta between battery cost reductions (–35% adjusted for inflation in the past 5 years) and BEV sales price (increase in median sales price) indicates further potential for BEV price reductions in the upcoming years.
Number of BEV models available	**159** Models available in 2025 in Europe's largest automotive market compared with 194 ICEV models	Among BEVs, affordable models remain limited to 35 but have been increasing.
TCO comparison of BETs and diesel trucks in Germany	**10% and 11%** Lower TCO of BETs compared with regional and long-haul diesel trucks (respectively) in 2026	BETs and diesel trucks are approaching TCO parity or, in some cases, have already reached it.
3. Climate and health impacts	Among all financially viable options for cars and trucks, BEVs deliver the largest climate and public health benefits compared with ICEVs.	
Life-cycle emissions of BEVs compared with gasoline ICEVs	**–73%** Life-cycle greenhouse gas (GHG) emissions of BEVs compared with gasoline ICEVs	BEVs today offer a lower GHG intensity than any combustion engine or hybrid vehicle.
Life-cycle emissions of BETs compared with diesel ICEVs	**–86%** Life-cycle GHG emissions of BETs compared with diesel trucks	BETs today offer a lower GHG intensity than any combustion engine or hydrogen vehicle.
PHEV real-world performance	**4.6×** Higher than type-approval values	PHEVs show a significant and increasing gap between real-world and type-approval emissions, despite an average increase in electric driving range.
4. Charging infrastructure and the power grid	The number of public chargers in the European Union has grown almost eightfold since 2020, reaching 1.16 million by June 2026, indicating that there are sufficient public chargers for the current EU fleet on the road.	
Public charger deployment	**1.16 million** Public chargers	This number includes 2,450 HDV-dedicated chargers.
AFIR fleet-based target compliance	**3.4×** More public charging capacity per EV on the road than the AFIR target	The EU is largely overachieving the AFIR fleet-based target and all EU Member States are exceeding it (except Malta).
Public DC charger deployment along the TEN-T	**92% and 16%** TEN-T coverage for LDVs and HDVs, respectively (portion covered if there is a charger within 1 km of the network every 60 km)	The EU highway fast charging network is expanding.
5. Supply chain and industrial competitiveness	Building up battery production and supply chains in Europe will require concerted efforts by governments and industry as well as market confidence. Further delays in the EV transition would risk losing battery and vehicle production market shares to global competitors.	
Global BEV sales	**47%** New BEV sales share in Vietnam in the first half of 2026	The BEV transition is accelerating globally, with some emerging markets surpassing Europe in terms of BEV market share.
Powertrain mix of EU car production	**19%** Share of BEV car production in the EU in 2025	Within the global BEV transition, the EU is positioning itself with a growing share of its car production being battery electric.
Battery supply chain	**~50%** Of the EVs produced in Europe are equipped with batteries also produced in Europe	Although all installed cell production capacities in the EU in 2025 were technically sufficient to meet EV demand, low capacity-utilization rates limited cell production output.

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