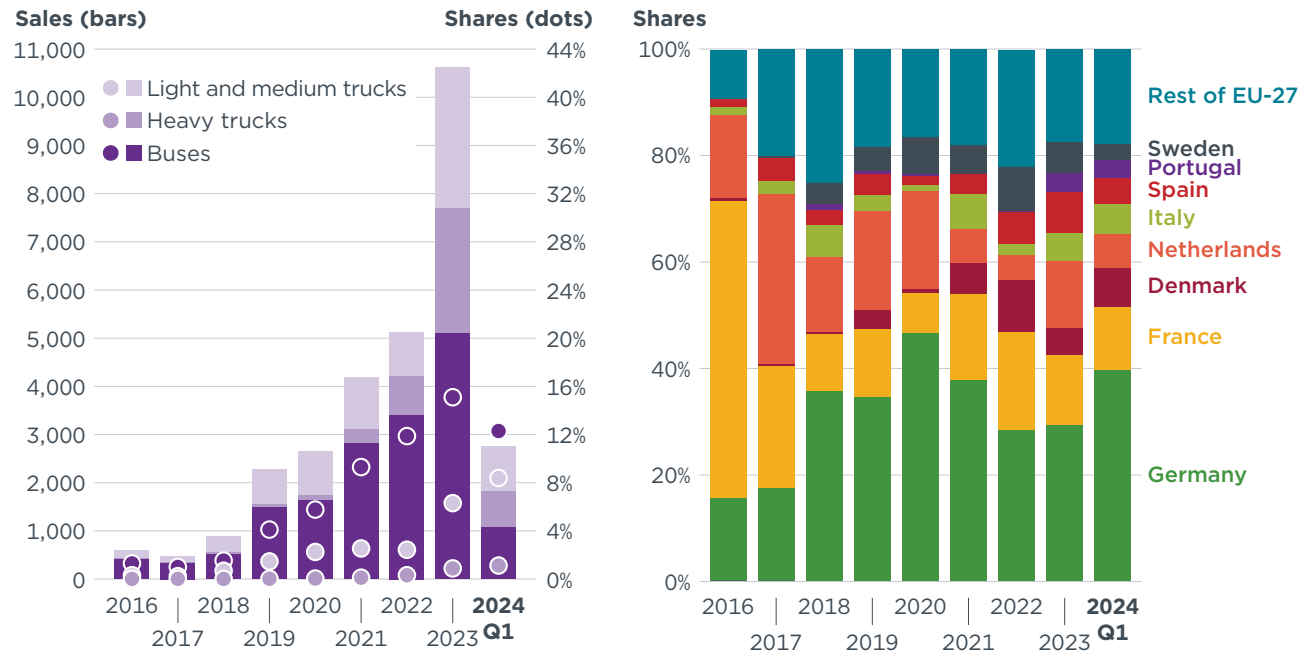


EUROPEAN HEAVY-DUTY VEHICLE MARKET DEVELOPMENT QUARTERLY (JANUARY-MARCH 2024)

ALESSIA MUSA, SATHVIKA ANANDA, PIERRE-LOUIS RAGON, FELIPE RODRÍGUEZ



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SUMMARY

In the first quarter of 2024, the market for zero-emission heavy-duty vehicles (HDVs) grew considerably, despite a contraction in overall HDV sales of 9% compared to the first quarter of 2023. The sales share of zero-emission vehicles (ZEVs) increased in all three segments—heavy trucks, light and medium trucks, and buses and coaches—compared to the first quarter of 2023. Germany continued to lead in zero-emission HDV sales, accounting for 40% of all sales in the EU-27.

Zero-emission heavy trucks represented more than a 1% share of the market, up from 0.5% at the end of the first quarter in 2023. In the light and medium segment, zero-emission vehicles made up more than 8% of sales in the first quarter of 2024, up from 6% at the end of the first quarter in 2023. Similarly, zero-emission buses accounted for 12% of bus and coach sales in the first quarter of 2024, up from less than 5% at the end of the first quarter of 2023.

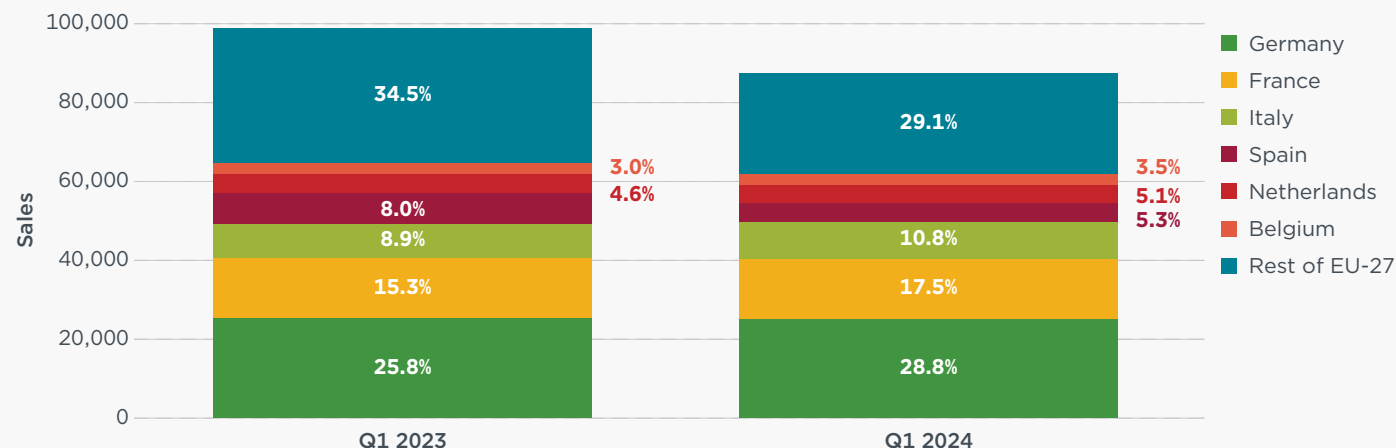
OVERALL MARKET DEVELOPMENTS

More than 86,000 HDVs, across all powertrain types, were sold in the EU-27 in the first quarter of 2024, a 9% decrease from the same period in 2023. Sales in the three biggest European markets—Germany (25,000), France (15,000), and Italy (9,000)—which together represented 57% of all HDV sales in the European Union (EU)—increased compared to the first quarter of 2023 (27%, 16%, and 9%, respectively), while the Spanish market shrank from 8% to 5%.

The seven top selling HDV brands in the EU represented 90% of all sales in the first quarter of 2024. Mercedes-Benz, the top selling brand (22%), consolidated its market share by an additional 1 percentage point (pp) compared to the first quarter of 2023. It was followed by MAN (15%, +1pp), Scania (13%, +2pp), Iveco (13%, +1pp), Volvo (12%, -2pp), DAF (10%, -2pp), and Renault (7%, -1pp).

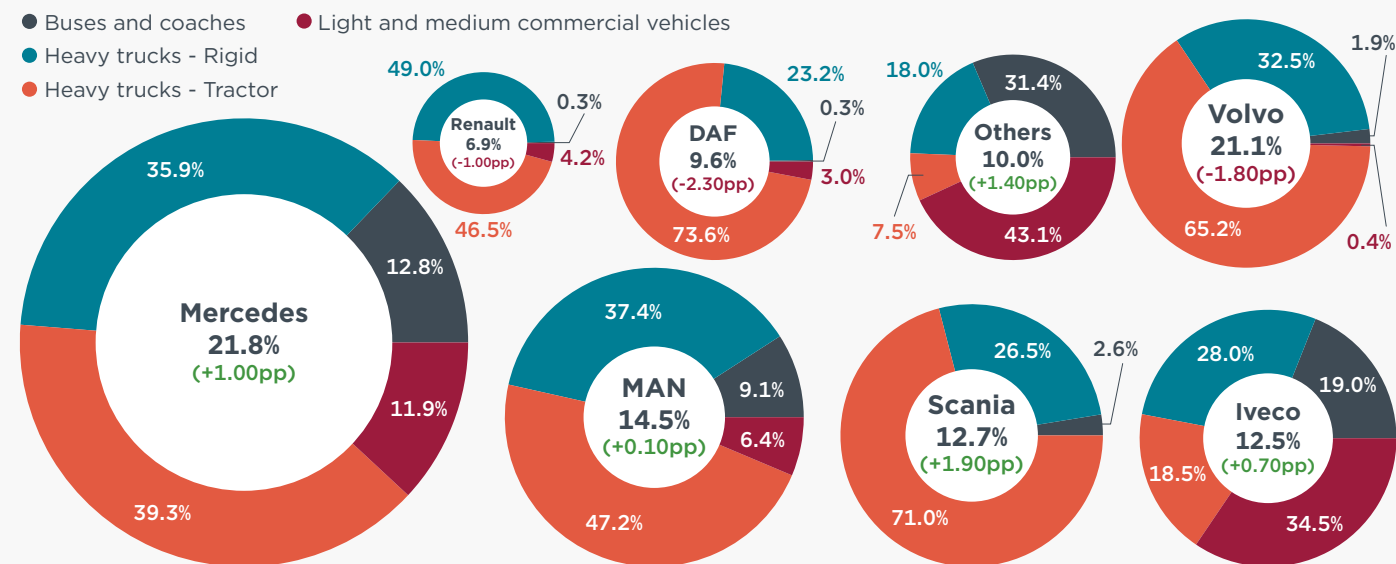
Heavy trucks represented more than 95% of the sales of brands Scania, DAF, Volvo Trucks and Renault Trucks, while IVECO proportionally sold fewer heavy trucks (47%) than light and medium commercial vehicles (35%), and buses and coaches (19%). DAF had the highest share of tractor trucks in its sales mix (74%), followed by Scania (71%) and Volvo (65%). Other manufacturers, which represent 10% of the market, sold mostly light and medium commercial vehicles (43%) as well as buses and coaches (31%).

FIGURE 1.1
Full market share by country



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FIGURE 1.2
Manufacturer market share by segment



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HEAVY TRUCKS

WITH A GROSS VEHICLE WEIGHT ABOVE 12 TONNES

In the first quarter of 2024, heavy trucks represented 77% of all HDV sales in the EU-27. Of the 67,000 heavy trucks sold in the first quarter, 750 (1.1%) were ZEVs. This is double the share of the first quarter of 2023, when only 500 of the 77,000 (0.6%) heavy trucks sold were ZEVs.

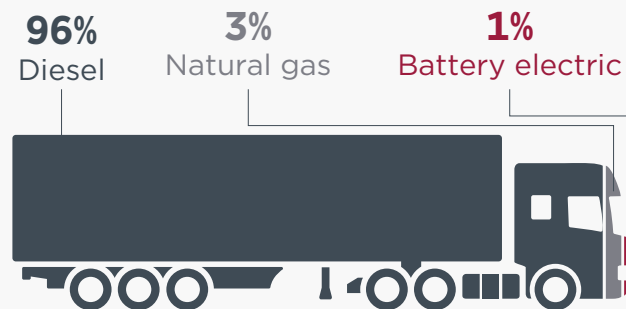
Germany continued to lead in total share of zero-emission heavy truck sales in the EU-27 in the first quarter of 2024 with 41%; the Netherlands followed with 17%. In comparison, in the first quarter of 2023, sales in Germany represented 23% of all zero-emission heavy truck sales; sales in the Netherlands were 17%. In the first quarter of 2023, 10% of zero-emission heavy trucks were sold in Spain, however, sales in Spain were less than 1% of the EU-27 total in the first quarter of 2024.

Volvo Trucks continues to consolidate its leading position in the zero-emission heavy trucks market. It had a 54% share of sales in this segment in the first quarter of 2024 (compared to 44% in the first quarter of 2023). Of Volvo's battery electric heavy trucks sales, 34% are attributable to the 4x2 FH-Series, which made up 20% of all battery electric heavy truck sales, followed by the 4x2 FM Series, which made up 12%.

Mercedes-Benz increased its conventional heavy trucks sales share by 2 percentage points in the first quarter of 2024 compared to the same period in 2023, while its share in the zero-emission heavy truck market increased from 8% to 15% in the same period.

FIGURE 2.1

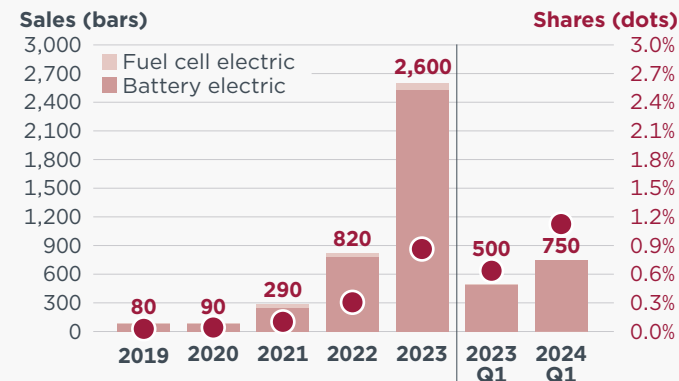
Sales of heavy trucks by powertrain



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FIGURE 2.2

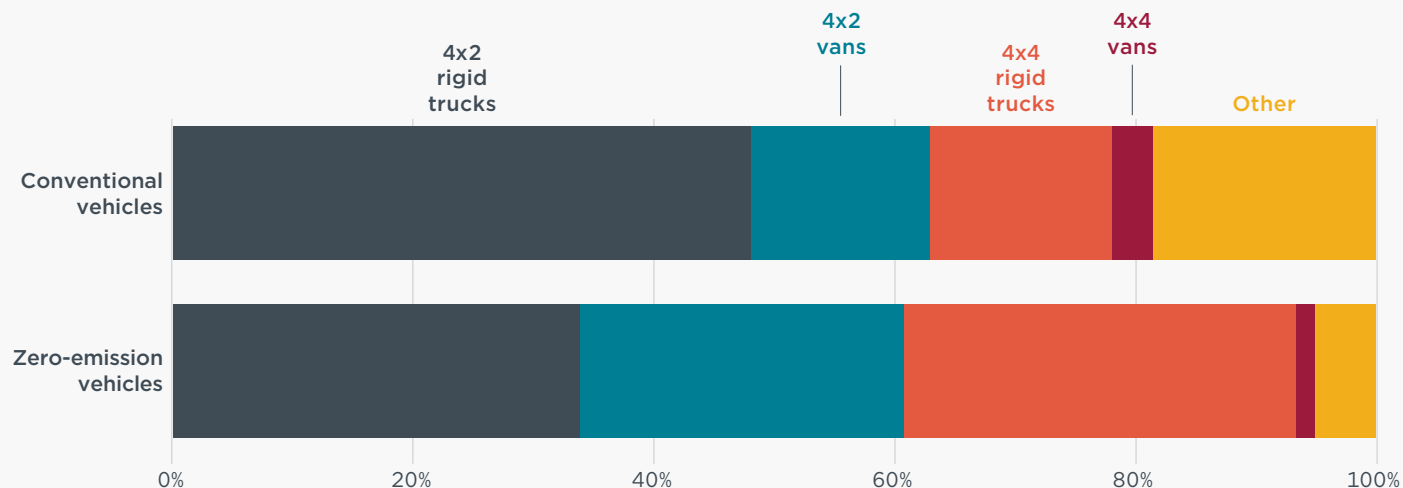
Sales of zero-emission heavy trucks



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FIGURE 2.3

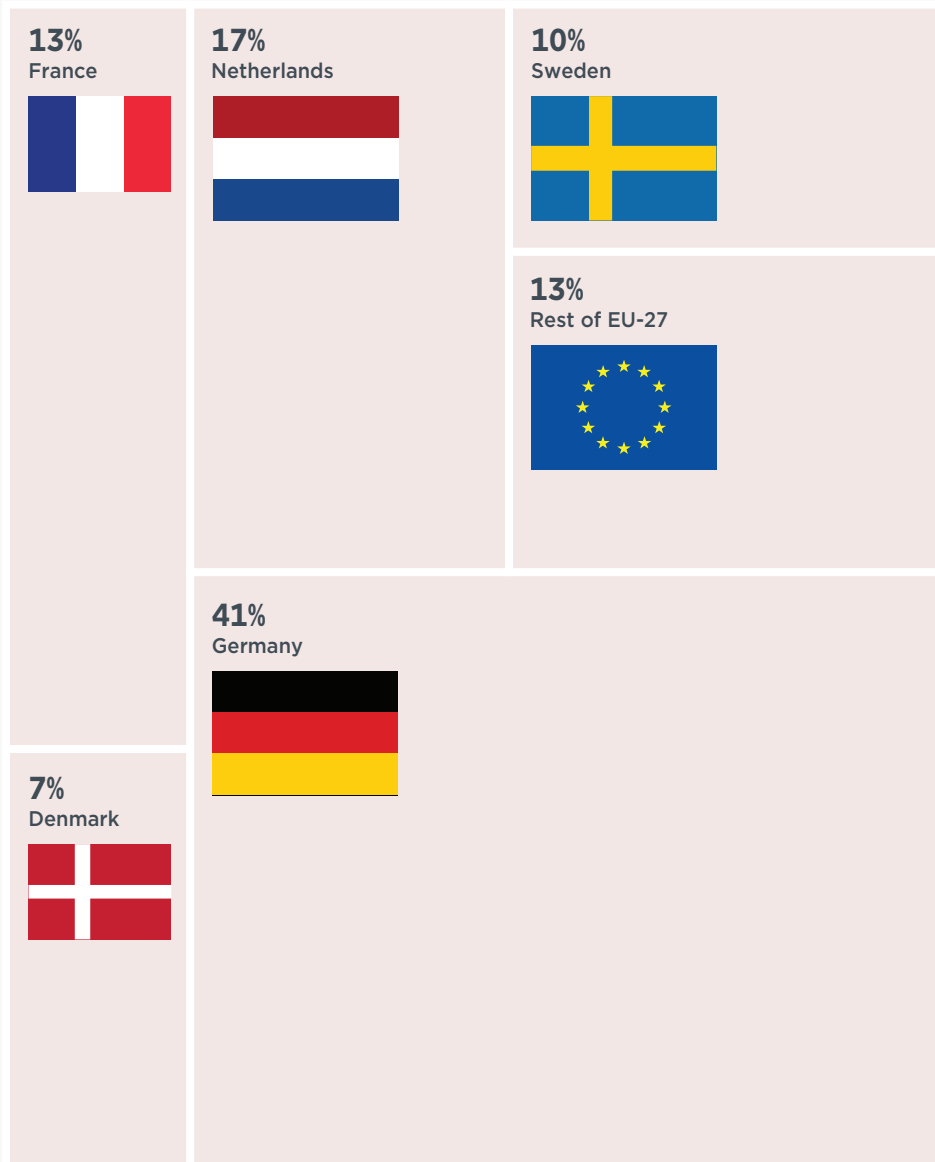
Sales of zero-emission heavy trucks by configuration and powertrain



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FIGURE 2.4

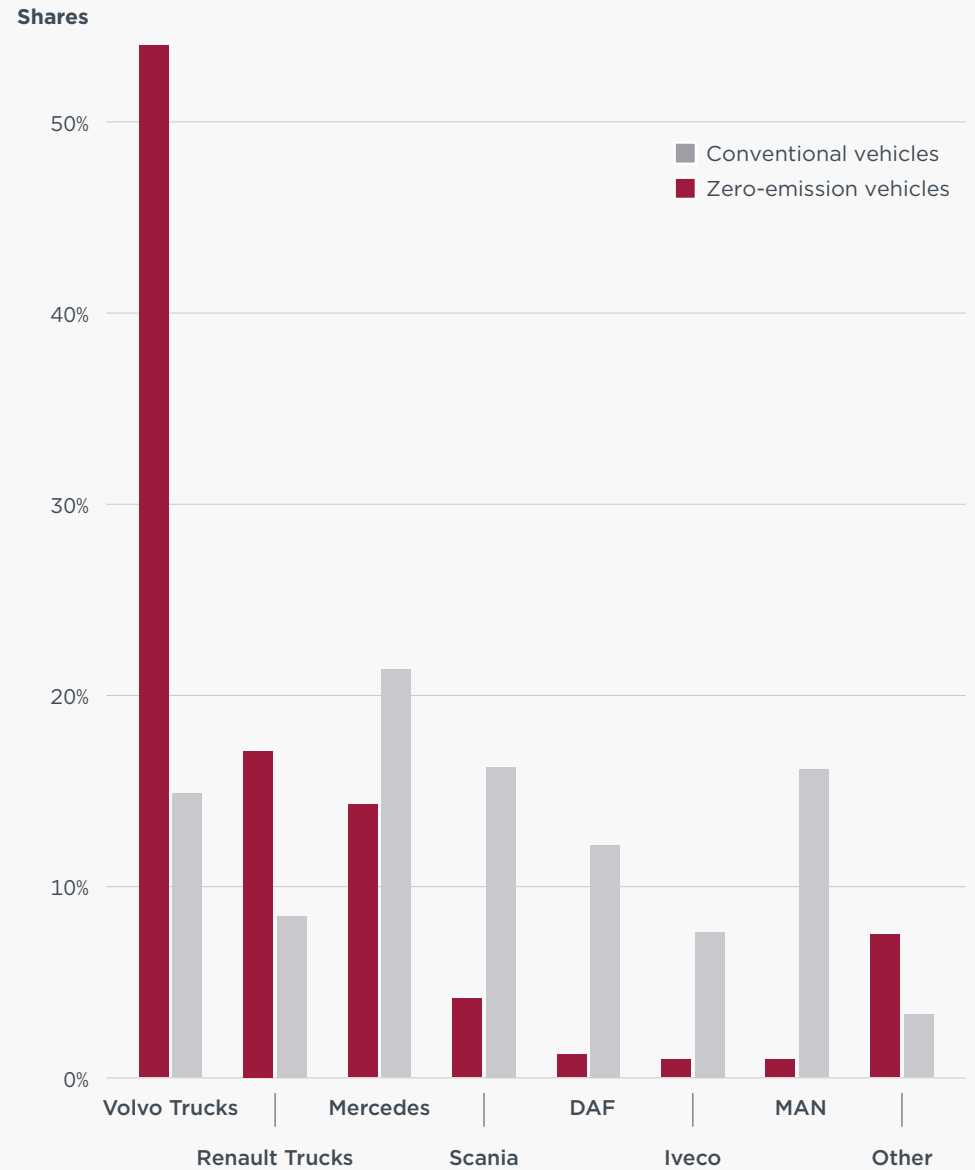
Sales of zero-emission heavy trucks by Member State



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FIGURE 2.5

Shares of heavy trucks by powertrain and manufacturer



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LIGHT AND MEDIUM COMMERCIAL VEHICLES

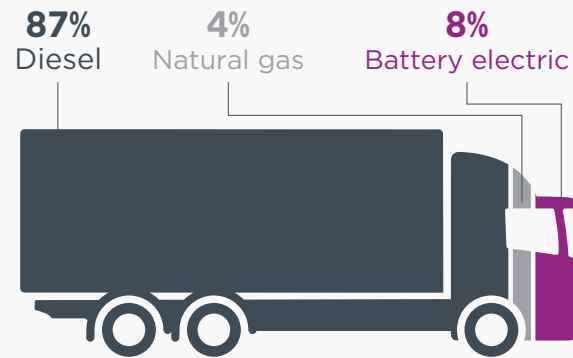
WITH A GROSS VEHICLE WEIGHT BETWEEN 3.5 TONNES AND 12 TONNES

In the first quarter of 2024, 11,000 light and medium commercial vehicles were sold in the EU-27. Of these, 8% were ZEVs. There was an 8% dip in total sales compared to the first quarter of 2023, when 12,000 vehicles were sold. However, the number of ZEVs sold increased from 450 to nearly 950 in the first quarter of 2024.

In the first quarter of 2024, Germany had the most sales of zero-emission light and medium commercial vehicles (67% of sales compared to 28% in the first quarter of 2023). France had 11% of zero-emission light and medium commercial vehicle sales in the first quarter of 2024 compared to 38% in the first quarter of 2023.

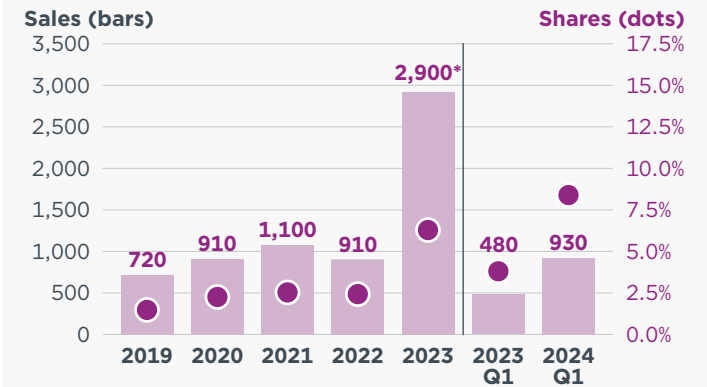
Ford continues to lead the zero-emission market in this segment, despite a shrinking market share. In the first quarter of 2024, Ford supplied 40% of all zero-emission light and medium commercial vehicles; at the end of the first quarter of 2023, Ford had supplied more than 50%. Fiat more than doubled its share of all zero-emission light and medium commercial vehicle sales in the past year, supplying 30% by the end of the first quarter of 2024 compared to 12% in the first quarter of 2023.

FIGURE 3.1
Sales of light and medium commercial vehicles by powertrain



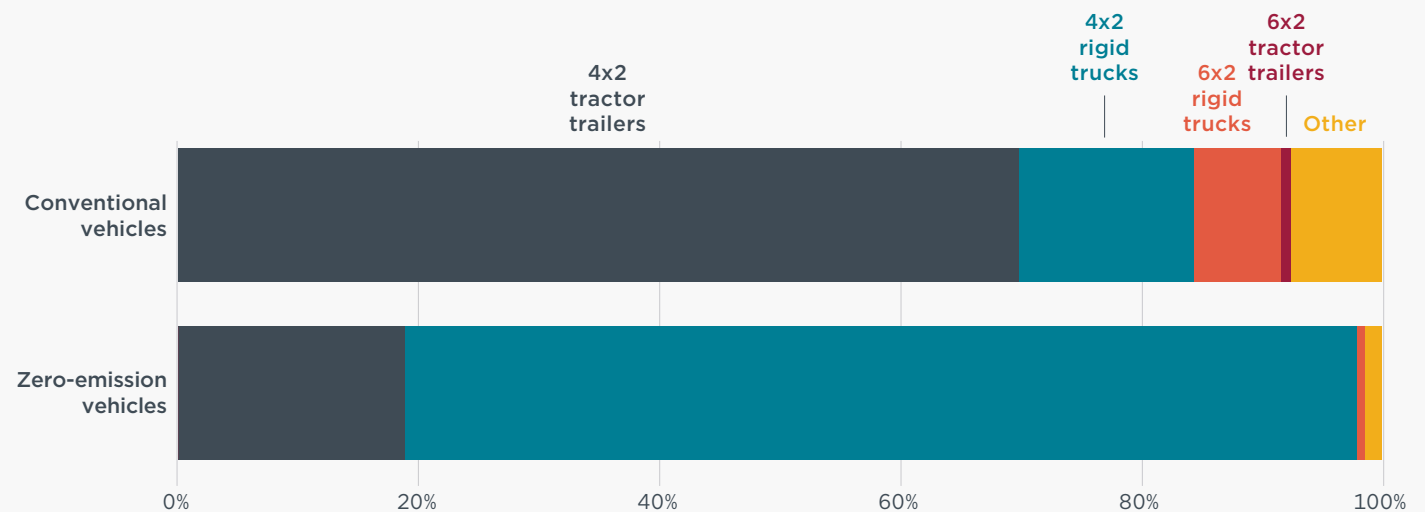
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FIGURE 3.2
Historic sales of battery-electric light and medium commercial vehicles



* Six fuel-cell electric light and medium commercial vehicles were sold in 2023.
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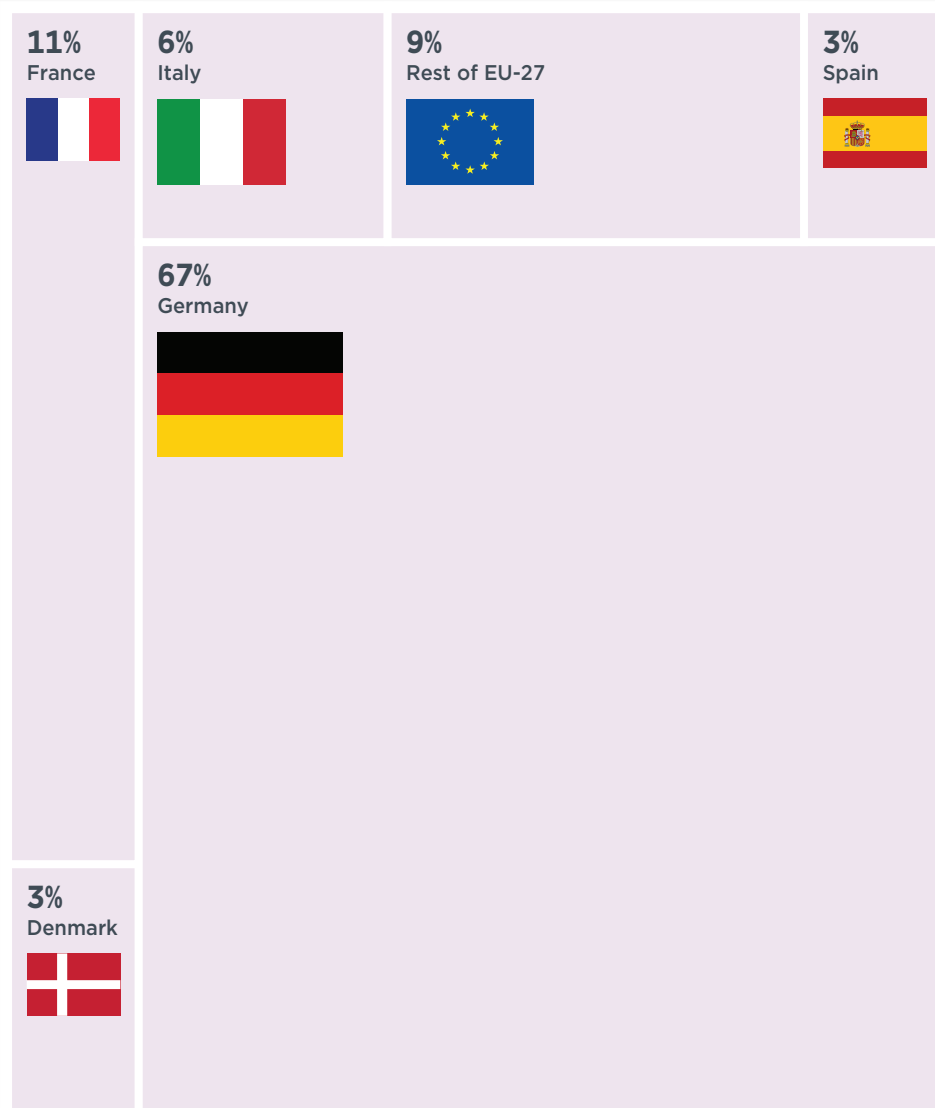
FIGURE 3.3
Sales of zero-emission light and medium commercial vehicles by configuration and powertrain



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FIGURE 3.4

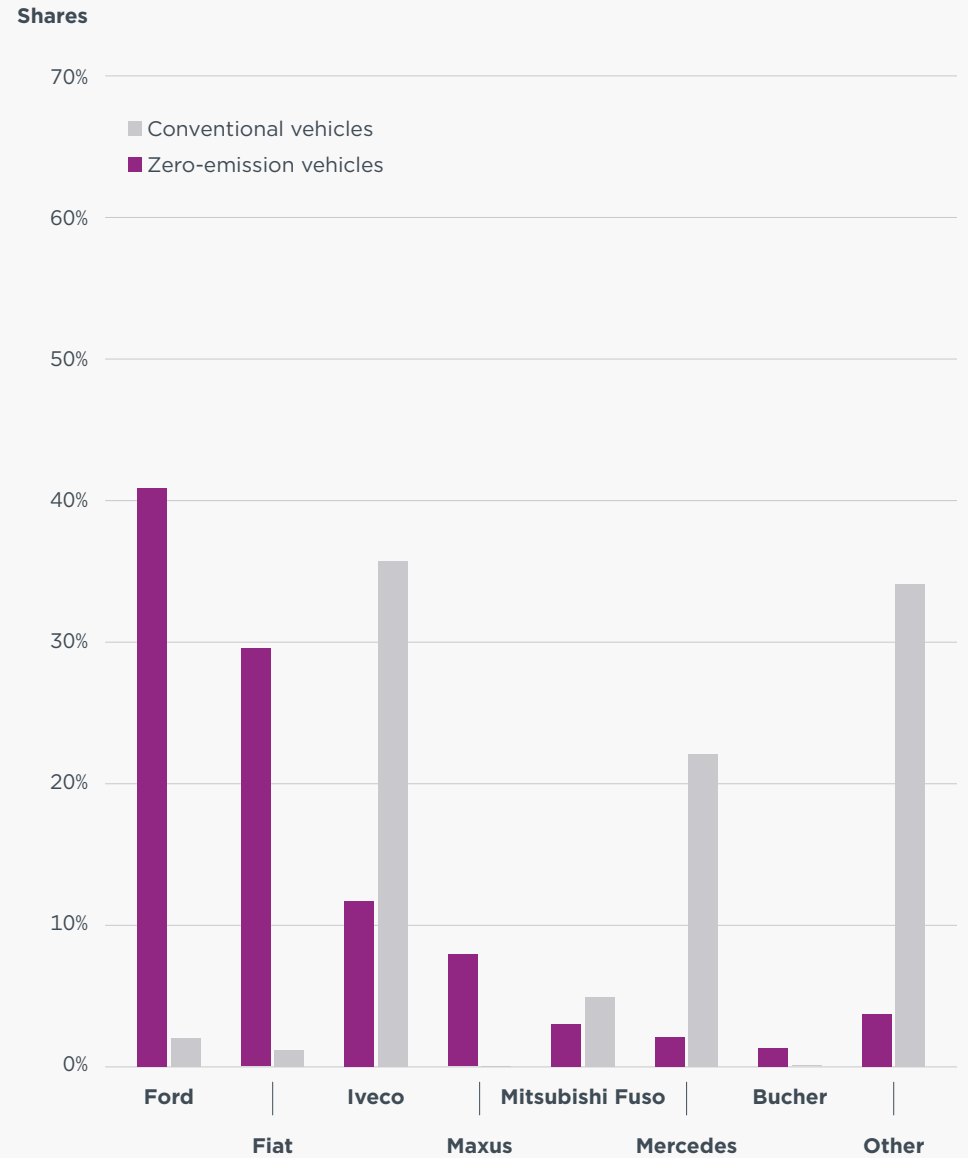
Sales of zero-emission light and medium commercial vehicles by Member State



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FIGURE 3.5

Shares of light and medium commercial vehicles by powertrain and manufacturer



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BUSES AND COACHES

WITH A GROSS VEHICLE WEIGHT ABOVE 3.5 TONNES

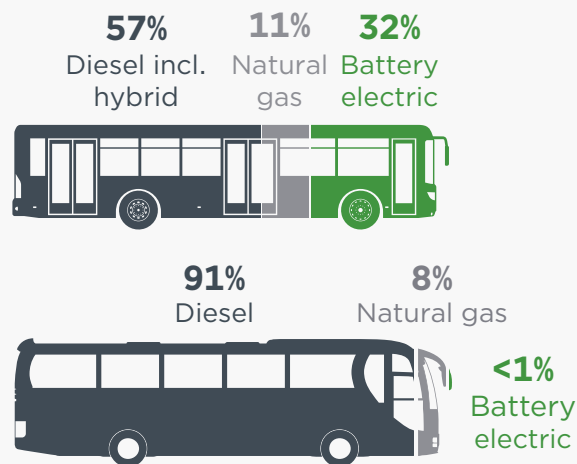
Of the 8,850 urban and interurban buses and coaches sold in the first quarter of 2024, 1,100 were ZEVs, a 12% share. City bus registrations in the same quarter amounted to 3,200 units, with 1,100—or 32%—being battery electric.

In the first quarter of 2023, all city buses sold in several countries, including Denmark, Ireland, and the Netherlands, were zero-emission models. In the first quarter of 2024, 1 and 3 conventional diesel buses were sold in Denmark and the Netherlands respectively. In Ireland, diesel bus purchases increased to 40% (60% of bus purchases were battery electric). In France, the sales shares of electric, natural gas, and diesel buses in the first quarter of 2024 were closely split, with natural gas buses accounting for most registrations. In contrast, 100% of the city buses registered in Luxembourg in the first quarter of 2024 were battery electric.

Looking at key market suppliers, Mercedes-Benz increased its market share in the zero-emission bus segment from around 5% in the first quarter of 2023 to nearly 15% by the end of the first quarter of 2024.

FIGURE 4.1

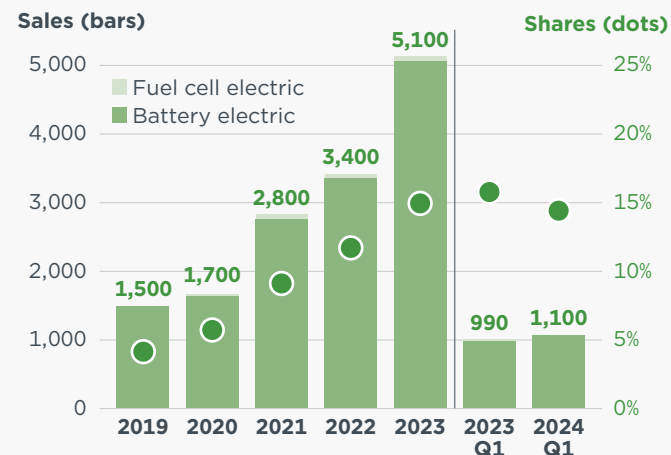
Sales of city buses (top) and interurban/coaches (bottom) by powertrain



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FIGURE 4.2

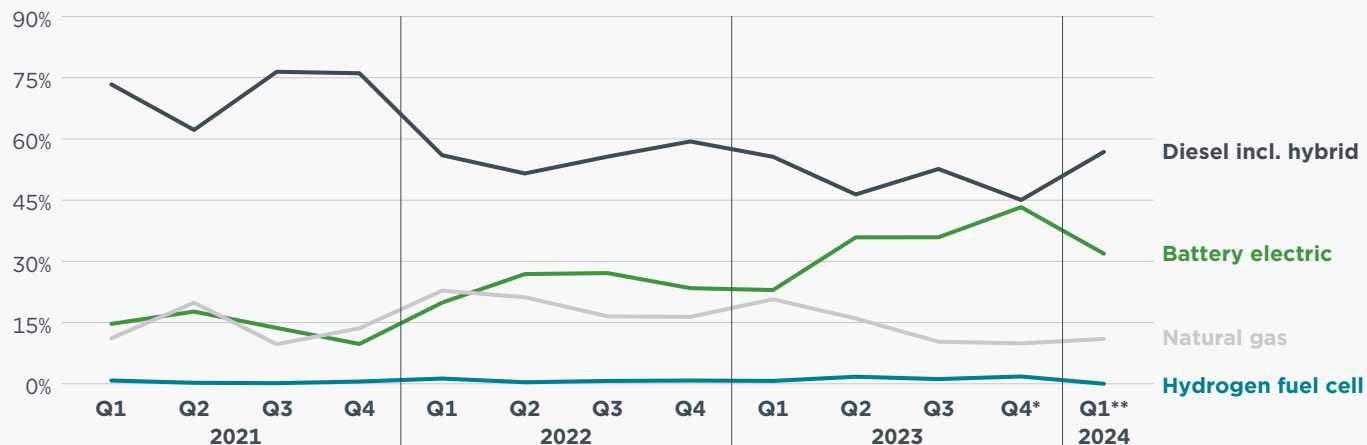
Historic sales of all zero-emission buses



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FIGURE 4.3

Sales of city buses by Member State and powertrain



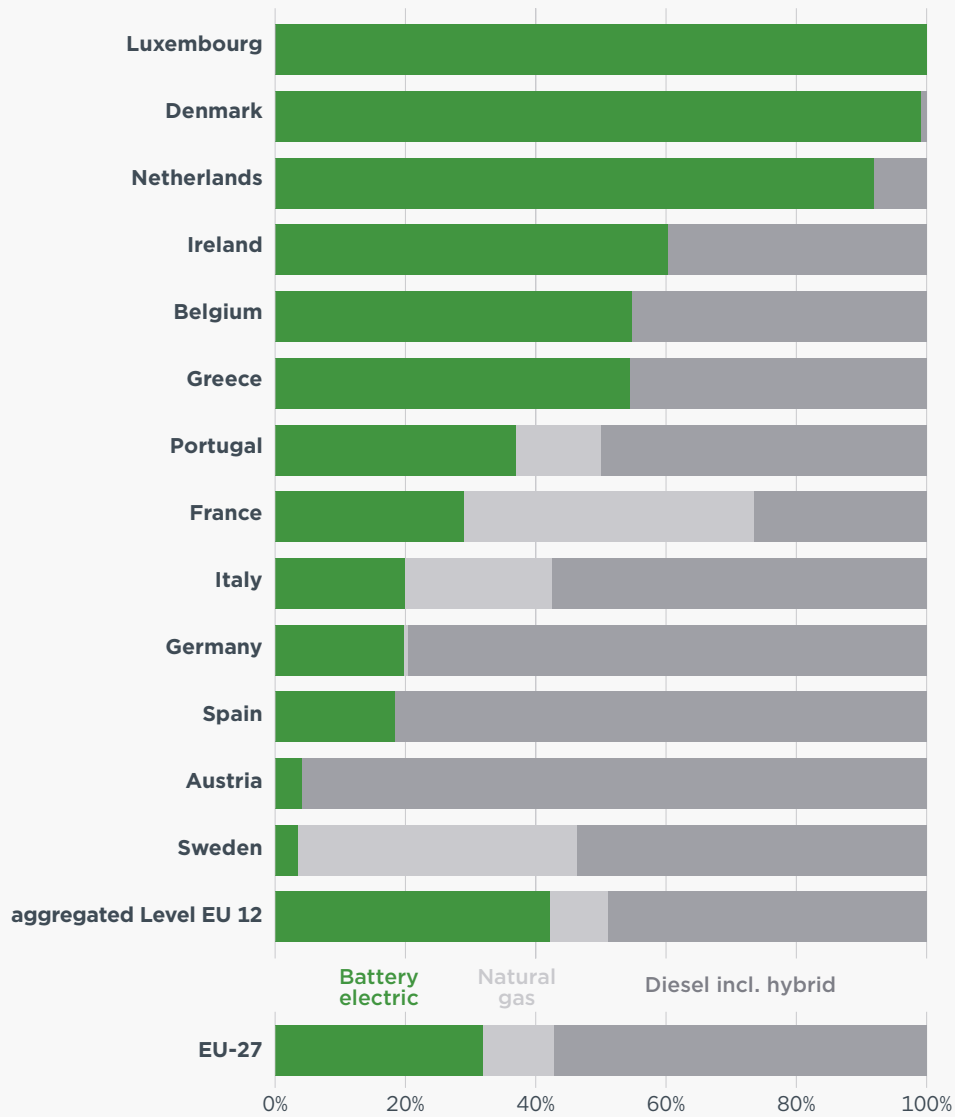
*Q4 2023 data has been updated since it was incorrectly reported in our previous market monitor

**Data provider for city buses changed in Q1 2024, potentially causing deviations in categorization of city buses

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FIGURE 4.4

Sales of city buses by powertrain and Member State

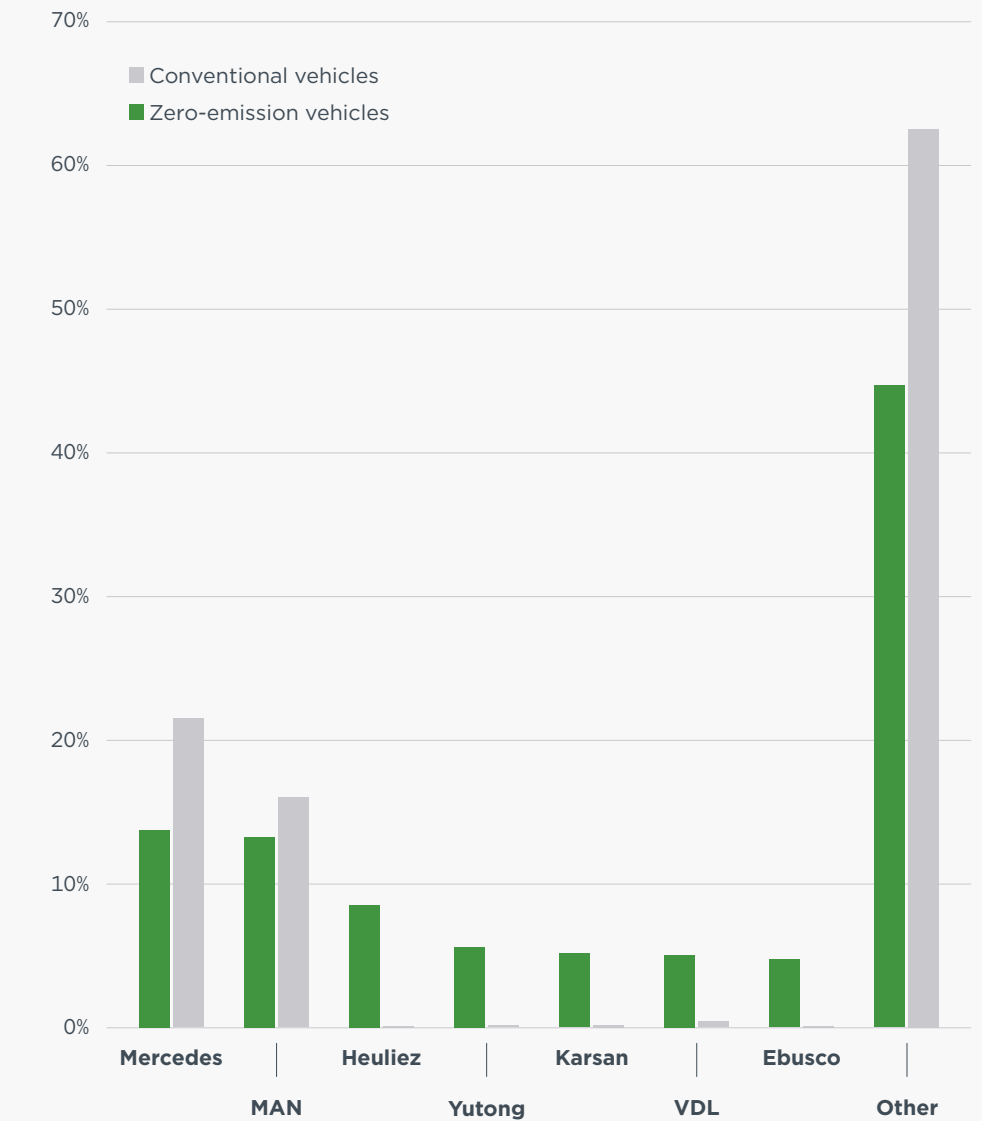


*Greece had no sales of buses in the fourth quarter of 2023

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FIGURE 4.5

Shares of all buses by powertrain and manufacturer Shares



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TECHNOLOGY FOCUS: ZERO-EMISSION TRUCK PURCHASE SUBSIDIES IN THE EUROPEAN UNION

LOOKING BEYOND QUARTERLY SALES

Governments can implement several types of policy measures to support the development of the ZEV market. Due to the high purchase cost of ZEVs, and because most transport operators have low access to capital, direct purchase subsidies can be an effective measure to boost ZEV sales in the early adoption phase, though this is not a sustainable long-term measure.

Table 1 details the purchase subsidy programs available for zero-emission trucks across European countries, together with relevant provisions. As of

May 2024, 11 countries in the EU-27, as well as Norway and the United Kingdom, offer direct purchase subsidy schemes to transport operators. These incentives typically depend on factors including company size, vehicle type, and whether a previous vehicle has been scrapped. France has agreed on a subsidy scheme for 2024 that has not yet started as of May 2024. Notably, France and Belgium subsidize the acquisition of battery-electric vehicles only. Germany, the largest market for these vehicles within the EU-27, discontinued its subsidy program (KsNI) in February 2024, and is allocating its budget to other

supporting mechanisms, including the build-out of a comprehensive charging infrastructure network.

Beyond subsidies, other financial incentives such as comprehensive tax benefits are available in countries like Belgium, Denmark, France, and Spain, which could motivate companies to invest in ZEVs. Austria, the Czech Republic, Germany, and Hungary offer CO₂-based road tolls for diesel trucks and a simultaneous exemption or reduction for zero-emission heavy vehicles, following the Eurovignette Directive. Additional sub-national subsidies may also exist.

Country	Implementing agency	Program	Funding available and time window	Eligibility ^a	Subsidy amount ^b	Link to more information
Austria	The Austrian Research Promotion Agency (FFG)	Emissionsfreie Nutzfahrzeuge und Infrastruktur (ENIN)	€365 million	All zero-emission commercial vehicles (N2 and N3)	Up to 80% of the list price	here
Austria	Kommunkredit Public Consulting (KPC)	Umweltförderung KPC	NA	M3, N2, N3 and specialized ZEVs	Up to €130,000	here
Belgium (Flanders only)	Flanders Agency for Innovation and Entrepreneurship (VLAIO)	Batterij elektrische vrachtwagen	€25–€35 million for the entire Energy premium program	Fully electric commercial vehicles (N2 and N3) with purchase cost up to €400,000, capped at two trucks per company	24% to 32% of the purchase cost, depending on company size	here
Croatia	Ministry of Environmental Protection and Energy-Efficiency	Program sufinanciranja elektricnih vozila 2022		All zero-emission HDVs (M2, M3, N2, N3)	Up to €53,000	here
Czech Republic	Czech Ministry of Transport	Národní rozvojová banka	NA		Up to €200,000	here
Finland	Finnish Transport and Communications Agency (Traficom)		€2.5 million through 2025	Hybrid vans and trucks	€6,000 to €50,000	here
France	Environment and Energy Management Agency (ADEME)	Appel à projet	€130 million between 2024 and December 2028 (funding through energy saving certificates)	Battery-electric HDVs	2,100 HDVs will be funded with the available budget	here
Germany	Currently no purchase subsidy available (KsNI program phased out in February 2024)					

Country	Implementing agency	Program	Funding available and time window	Eligibility ^a	Subsidy amount ^b	Link to more information
Ireland	Transport Infrastructure Ireland (TII)	Zero Emissions Heavy Duty Vehicle Purchase Grant Scheme	€3.5 million	All zero-emission HDVs (M2, M3, N2, N3)	30%- 60% of the cost differential with a baseline diesel vehicle, depending on company size	here
Italy	Ministero delle Infrastrutture e della Mobilità Sostenibili	DPCM	€20 million	N2 vehicles up to and excluding 12 tons, conditional on scrapping a Euro 4 or below vehicle	€14,000	here
Malta	Transport Malta	Scheme for more sustainable transport	€15 million	Eligibility determined on a case-by-case basis	40% of the selling price, capped at €70,000 per vehicle	here
Netherlands	Netherlands Enterprise Agency (RVO)	AanZET	€45 million	All zero-emission trucks (N2, N3)	Up to 29% of the purchase cost or €115,200	here
Norway	Enova	Heavy zero-emission vehicles grant	N/A, monthly support rounds starting April 15, 2024	All HDVs over 4,250 kg, competition based on the amount of support provided per kilogram of CO ₂ reduced	Up to 60% of the cost difference compared to a diesel vehicle	here
Poland	National Fund for Environmental Protection and Water Management	Support for the purchase or leasing of zero-emission vehicles of the N2 and N3 categories	€234 million	All zero-emission heavy commercial vehicles (N2, N3)	30% to 60% of purchase cost based on company size, with a limit of €88,000 (N2) to €132,000 (N3)	here
Sweden	Swedish Transport Agency	Klimatpremien	NA	Electric light trucks and buses	For light trucks, up to 30% of the eligible cost, not exceeding ~€4,550. For buses, 40% of the difference with the closest diesel bus for private companies and 20% for public transport authorities	here
United Kingdom	Department for Transport (DfT)	Plug-in Van and Truck Grant (PIVG)	7.5M € through March 2025	Heavy commercial vehicles (N2, N3) emitting at least 50% less CO ₂ than an equivalent Euro VI vehicle and featuring a zero-emission range of 60 km, limited to vehicle models registered by OEMs	Up to €29,000 for large trucks (100 grants available), up to €18,500 for light trucks (100 grants available). If grants are exhausted or a customer has exceeded their limit (10 and 5 respectively), then the large van grant of €5,800 per vehicle is awarded	here

Note: There are currently no purchase subsidies available in: Bulgaria, Cyprus, Denmark, Estonia, Germany, Greece, Hungary, Latvia, Lithuania, Luxembourg, Portugal, Romania, Slovakia, or Spain. The incentive schemes available for zero-emission HDV purchase are regularly being revisited and revised. The most up to date information can be found on the implementing agency's website.

^a N2/N3=goods vehicles with weight between 3.5 and 12 tonnes/exceeding 12 tonnes. M2/M3=buses with weight up to/exceeding 5 tonnes.

^b All values are converted to Euro

DEFINITIONS, DATA SOURCES, METHODOLOGY, AND ASSUMPTIONS

A **zero-emission vehicle** is any vehicle whose propulsion system produces zero combustion emissions, such as a dedicated battery-electric, fuel cell-electric, or other motor that is not driven by combustion.

A **heavy-duty vehicle** is a commercial vehicle, intended for the transport of passengers or freight, with a gross vehicle weight above 3.5 tonnes.

A **heavy truck** is a truck with a gross vehicle weight above 12 tonnes.

A **light and medium commercial vehicle** is a truck or van with a gross vehicle weight between 3.5–12 tonnes.

A **city bus** is a passenger vehicle with a gross vehicle weight above 3.5 tonnes that is used exclusively in urban environments.

An **interurban bus** is a passenger vehicle with a gross vehicle weight above 3.5 tonnes that is used in both urban and regional environments.

A **coach** is a passenger vehicle with a gross vehicle weight above 3.5 tonnes that is used exclusively in regional environments.

All data are supplied by Dataforce. All countries from the EU-27, except Bulgaria, are covered here.

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^b All values are converted to Euro