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EUROPE'S ELECTRIC VEHICLE MARKET LEADERS: DENMARK, SWEDEN, AND FINLAND

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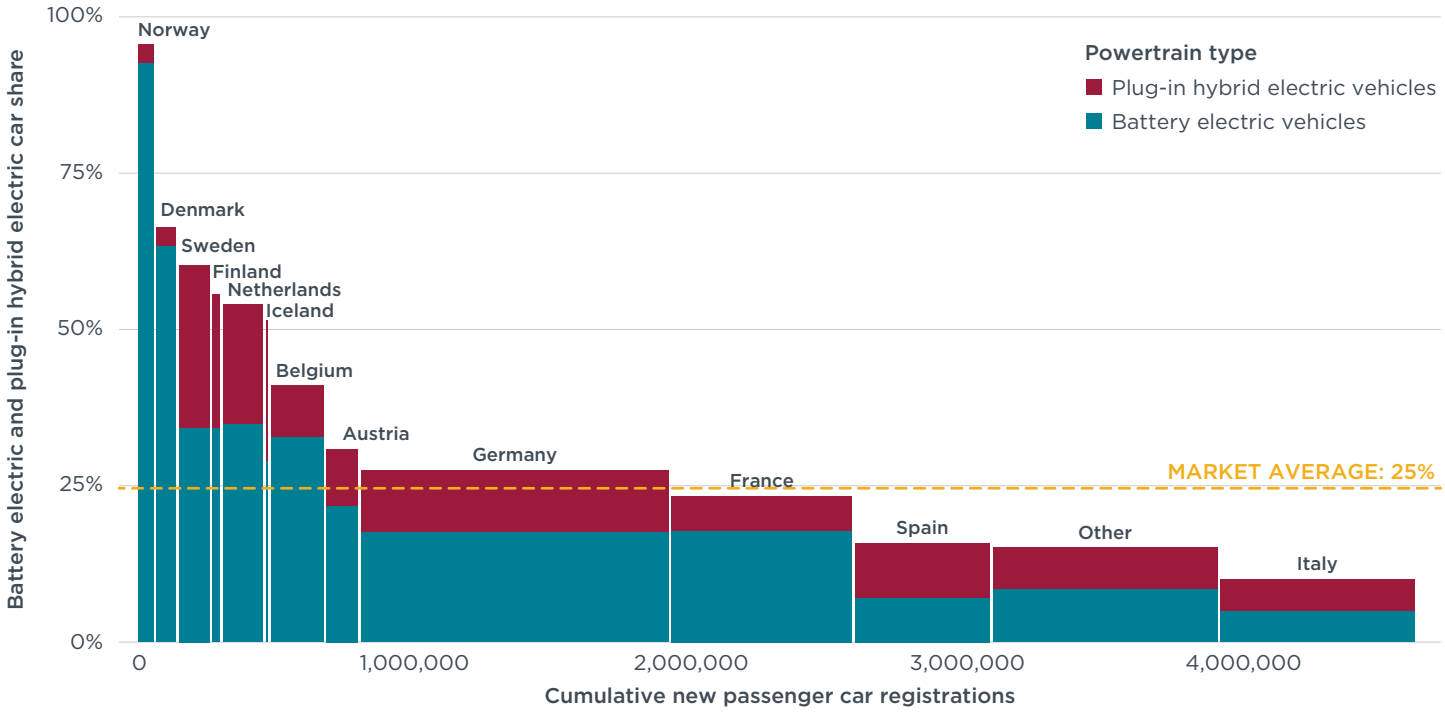
This market spotlight focuses on the electric vehicle (EV) markets in Denmark, Sweden, and Finland, which rank among the leaders in Europe in terms of EV shares of new passenger car registrations. The spotlight highlights key trends in EV adoption and examines policy measures and market characteristics that are likely to shape EV uptake in these countries. While Denmark, Sweden, and Finland are characterized by high economic prosperity, which may set them apart from other regions, their policy frameworks and strategies still offer transferable lessons.[1]

ELECTRIC PASSENGER CAR MARKET IN EUROPE

Nordic countries are leading Europe's transition to EVs. Norway is the region's top market in terms of EV share of new passenger car registrations: Between January and May 2025, battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) made up 96% of Norway's new passenger car registrations. Denmark (66%) ranked second, Sweden (60%) third, Finland (56%) fourth, and Iceland (51%) sixth. Collectively, these markets accounted for 6% of cumulative new passenger car registrations in Europe in the first five months of 2025.

Figure 1

Total new car registrations and share of BEV and PHEV passenger cars by country, January to May 2025



The sections below describe recent market trends and national-level policies that have contributed to EV adoption in Denmark, Sweden, and Finland. An infobox at the end of this spotlight notes additional drivers of EV uptake in Europe more broadly, including European Union (EU) CO_2 emission targets for cars, technological advancements, and public awareness and other sociocultural factors.

DENMARK

MARKET TRENDS, JANUARY–MAY 2025

In the first five months of 2025, EVs made up 66% of new car registrations in Denmark; among new passenger car registrations, 63% were BEVs and 3% were PHEVs. Compared with January to May 2024, BEV registrations rose by 55% while PHEV registrations fell by 34%. The total passenger car market grew more modestly than the BEV market, increasing by only 6%.

Table 1

New BEV and PHEV passenger car registrations in Denmark

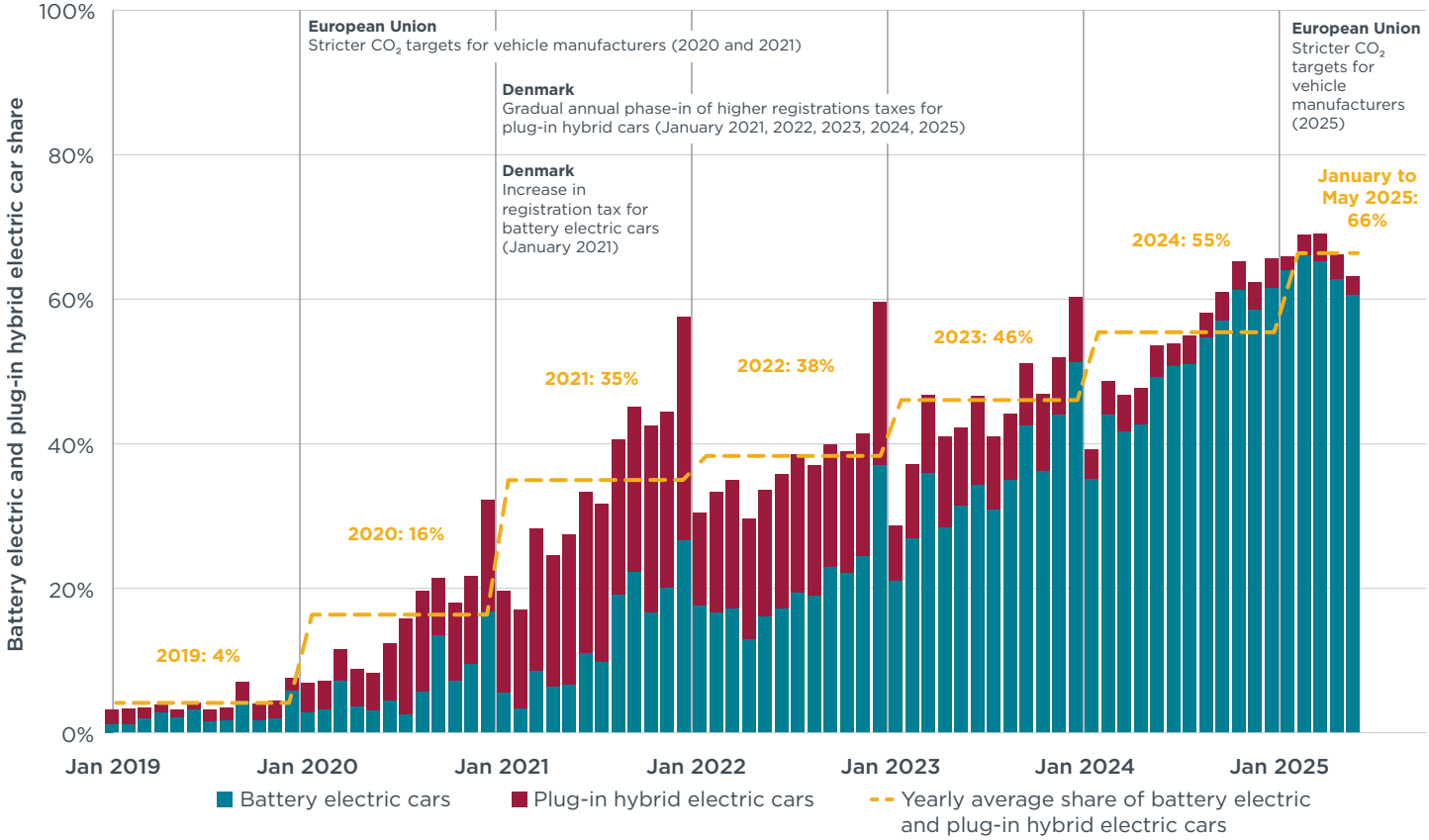
	January to May 2025			Change from January to May 2024		
Denmark	BEV	PHEV	Total	BEV	PHEV	Total
Total	45,013	2,063	70,906	+55%	-34%	+6%

HISTORICAL DEVELOPMENT

The EV share of new passenger car registrations in Denmark increased by 12 percentage points between 2019 and 2020 and by 19 percentage points between 2020 and 2021. The monthly average share reached 16% in 2020 and 35% in 2021. In 2024, EVs accounted for more than half of new car registrations.

Figure 2

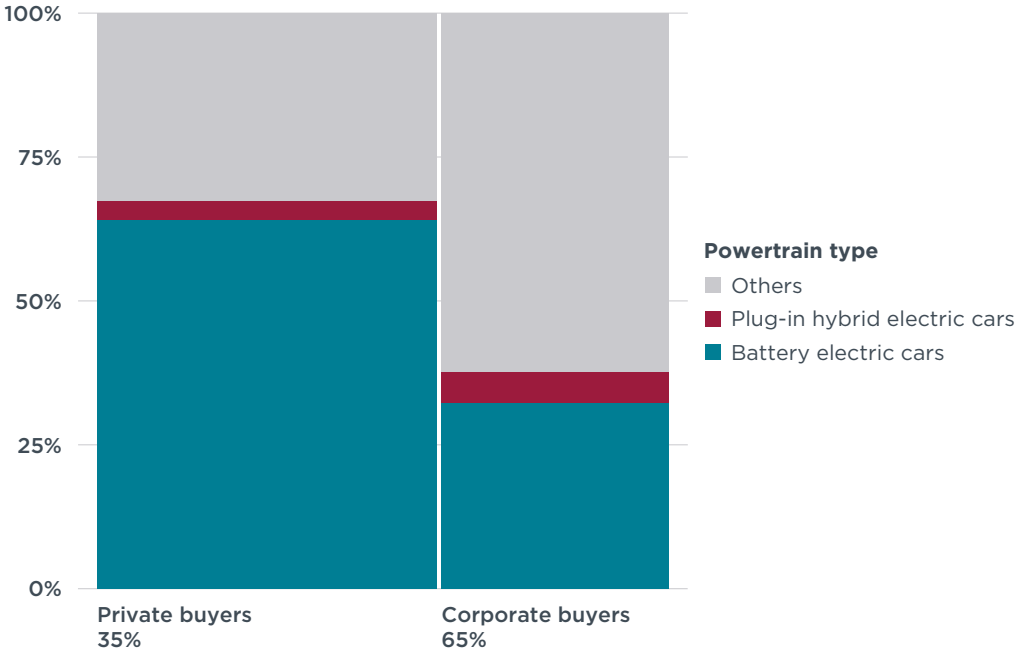
Share of BEVs and PHEVs in new passenger car registrations in Denmark and selected policy actions



Approximately 173,500 new passenger cars were registered in Denmark in 2024, of which 60% were purchased by private individuals and 40% by corporate entities. Among private registrations, 64% were BEVs and 3% were PHEVs, while among corporate registrations, 32% were BEVs and 5% were PHEVs. Of all new cars registered, 58% were leased; private leasing accounted for 40% of private new car registrations, and 85% of businesses' new car registrations were leased. Electric vehicles made up 40% of leased cars in 2024, up from 25% in 2023.

Figure 3

Share of BEVs and PHEVs in new passenger car registrations in Denmark by owner type, 2024



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Of the top 10 BEV models in 2024, which represented 53% of all new BEV registrations, 70% were SUVs.[2] The average price of BEV SUVs was about €66,000. The Tesla Model Y was the most popular BEV model, with over 10,000 new registrations, followed by the Škoda Enyaq iV and Volkswagen ID.4.

Table 2

Top 10 newly registered BEV models in Denmark, 2024

Rank	Brand	Model	Units sold	Segment
1	Tesla	Model Y	10,471	SUV
2	Škoda	Enyaq iV	5,654	SUV
3	Volkswagen	ID.4	5,652	SUV
4	Tesla	Model 3	5,527	Medium
5	Audi	Q4 e-tron	5,307	SUV
6	Peugeot	208	3,036	Small
7	Volkswagen	T-Roc	2,987	SUV
8	Volkswagen	ID.3	2,930	Medium
9	BMW	3 Series	2,855	Medium
10	Nissan	Qashqai	2,762	SUV

SELECTED NATIONAL-LEVEL DRIVERS OF EV UPTAKE

» **Tax incentives for EV purchases.** Unlike many other leading markets, Denmark has not provided EV purchase subsidies, instead seeking to spur EV adoption through tax breaks on EV registrations.[3] For non-EVs, Denmark implements a progressive vehicle registration tax, with rates increasing up to 150% on the portion of the vehicle price above a certain threshold.[4] Through 2025, purchasers of BEVs pay only 40% of this standard registration tax, a rate that will increase gradually to reach 100% by 2035. An additional deduction of kr165,000 (about €22,000) from the registration fee applies after the 40%, meaning purchasers pay little to no registration tax. For example, the registration tax difference between a small BEV and a small gasoline car is nearly €14,000, the largest tax break among 31 European countries surveyed (including the EU-27 plus Iceland, Norway, Switzerland, and the United Kingdom).[5]

» **Public charging infrastructure and home charging potential.** Denmark recorded the highest growth in public direct current (DC) fast chargers in Europe in the first quarter of 2025, with a 104% increase compared with the same period in 2024.[6] Housing patterns in Denmark also support broad access to home charging: As of 2023, 66% of Danes lived in detached or semi-detached houses, increasing to 77% in intermediate regions and 88% in rural regions, relative to an EU average of 52%.[7]

SWEDEN

MARKET TRENDS, JANUARY–MAY 2025

In the first five months of 2025, EVs accounted for 60% of new passenger car registrations in Sweden; among new passenger car registrations, 34% were BEVs and 26% were PHEVs. Compared with the same period in 2024, BEV registrations increased by 18% and PHEVs by 15%, and the total passenger car market grew by 6%.

Table 3
New BEV and PHEV passenger car registrations in Sweden

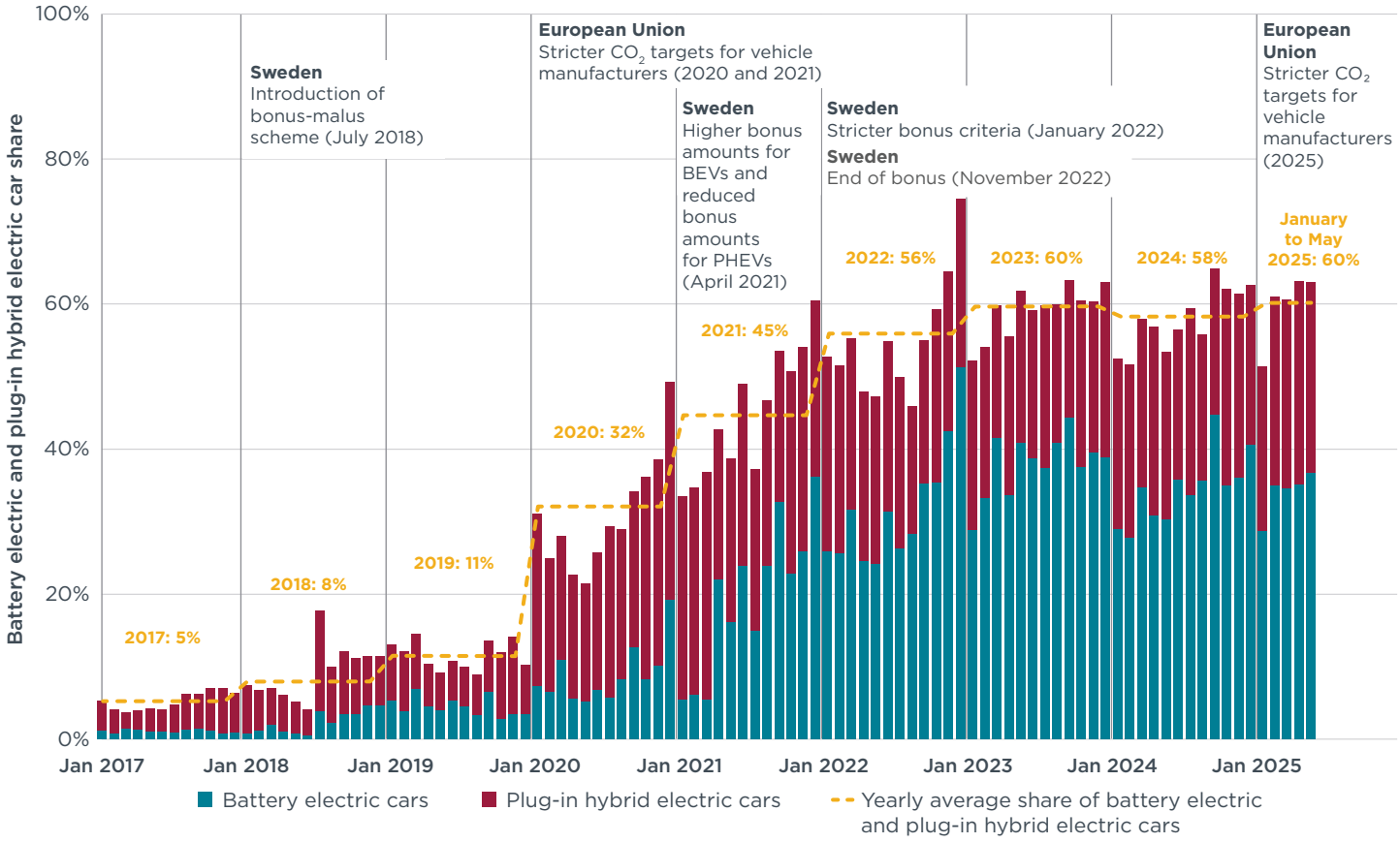
	January to May 2025			Change from January to May 2024		
Sweden	BEV	PHEV	Total	BEV	PHEV	Total
Total	38,979	29,540	113,687	+18%	+15%	+6%

HISTORICAL DEVELOPMENT

There has been a steady rise in EV uptake in Sweden since 2017, when PHEVs had a 4% share of the market and BEVs accounted for just 1%. From 2022, new registrations of BEVs began to consistently surpass registrations of PHEVs. By 2024, BEVs made up approximately 35% of all new passenger car registrations, compared with 23% for PHEVs.

Figure 4

Share of BEVs and PHEVs in new passenger car registrations in Sweden and selected policy actions



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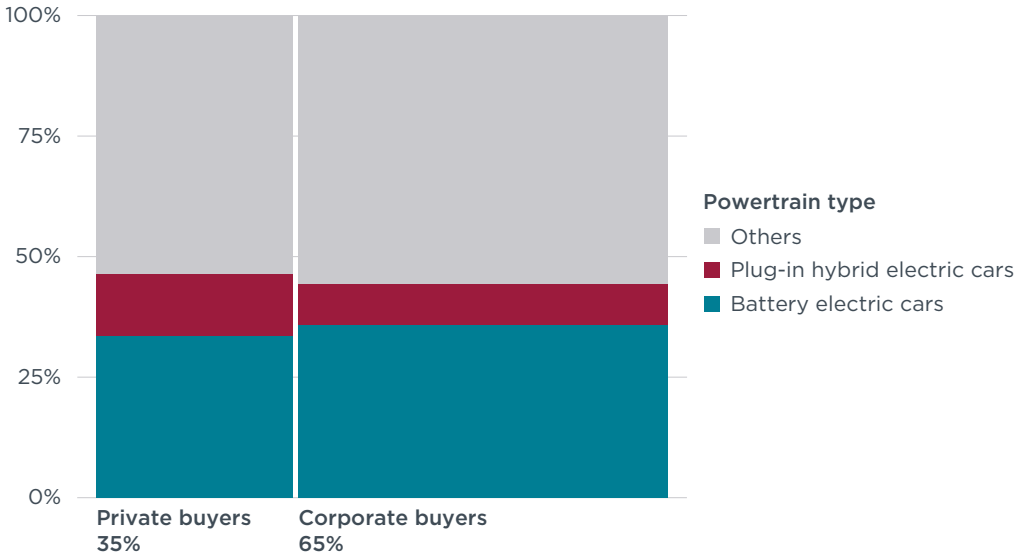
In 2024, approximately 270,000 new passenger cars were registered in Sweden. Of these, 35% were registered by private individuals and 65% by companies.

Among private buyers, BEVs made up 33% of new registrations and PHEVs 13%. In the corporate segment, 36% of new registrations were BEVs and 9% were PHEVs.

Figure 5

Share of BEVs and PHEVs in new passenger car registrations in Sweden by owner type, 2024



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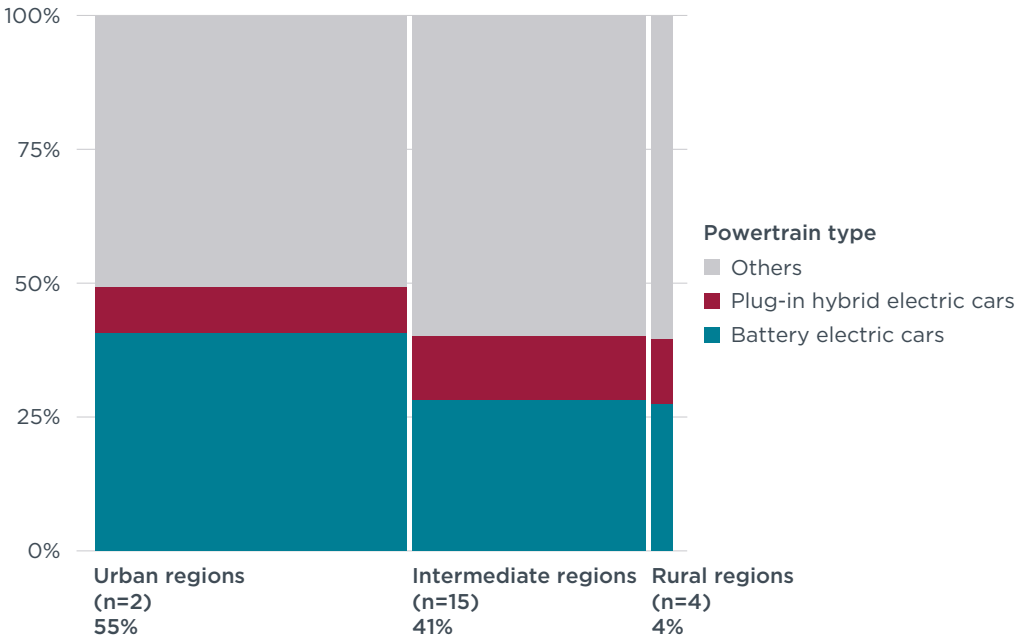
Of the top 10 BEV models newly registered in 2024, which represented 61% of new passenger car registrations in 2024, 81% were SUVs. The Tesla Model Y was the most popular with over 18,000 new registrations, followed by two models from Volvo.

Table 4
Top 10 newly registered BEV models in Sweden, 2024

Rank	Brand	Model	Units sold	Segment
1	Tesla	Model Y	18,293	SUV
2	Volvo	EX30	7,100	SUV
3	Volvo	EX/XC40	6,165	SUV
4	Volkswagen	ID.4	4,989	SUV
5	Polestar	Polestar 2	4,245	Medium
6	Škoda	Enyaq iV	3,841	SUV
7	Tesla	Model 3	3,477	Medium
8	Volvo	EC/C40	3,439	SUV
9	Volkwagen	ID.7/ID.7 Tourer	3,376	Medium
10	Audi	Q4 e-tron	2,569	SUV

Differentiating by regional typology, nearly 73,000 EVs were registered in Sweden's two urban regions in 2024, accounting for 60% of all new EV registrations. The 15 intermediate regions followed with almost 45,000 new EV registrations, representing 37% of the total, while the four rural regions accounted for just over 4,000 new EV registrations, making up 3%. Nearly half of new car buyers in urban areas chose an EV, while the share of EVs among new passenger car registrations was around 40% in both intermediate and rural regions.

Figure 6
Share of BEVs and PHEVs in new passenger car registrations in Sweden by regional typology, 2024



Note: The number of regions in each category is indicated in parentheses.

SELECTED NATIONAL-LEVEL DRIVERS OF EV UPTAKE

» **National purchase incentives and tax policy.** Sweden has long used purchase bonuses and tax incentives to promote EVs.[8] While earlier schemes offered direct purchase incentives, the introduction of a bonus–malus tax system in 2018 further accelerated EV adoption by offering financial incentives for BEVs and low-emission vehicles (typically PHEVs) emitting up to 60 g CO_2/km while imposing higher ownership taxes in the first three years on high-emission vehicles. In 2021, the bonus for BEVs was increased, while the incentive for PHEVs was reduced. While the direct purchase bonus ended in 2022, ownership tax advantages continue to promote EV adoption among both private individuals and businesses. For example, companies pay €0 annually to own a small electric car versus €400 for an equivalent gasoline car, the largest gap among 31 European countries surveyed.[9]

» **Public charging infrastructure and home charging potential.** Sweden continues to expand its public charging infrastructure network. As of 2023, 51% of Swedes lived in detached and semi-detached houses, supporting potential access to home charging. However, only one third of new cars in 2024 were registered by private individuals.[10]

» **Geographic patterns.** Most EV registrations are in urban regions with higher population density, though adoption is also notable in intermediate and rural regions. The share of EVs in new passenger car registrations in urban regions in 2024 was 9 percentage points higher than in intermediate and rural regions.

FINLAND

MARKET TRENDS, JANUARY–MAY 2025

In the first five months of 2025, EVs accounted for 56% of new passenger car registrations; among new cars registered, 34% were BEVs and 21% were PHEVs. Compared with the same period in 2024, BEV registrations increased by 18%, while PHEV registrations declined by 6%. The total car market shrank by 8%.

Table 5
New BEV and PHEV passenger car registrations in Finland

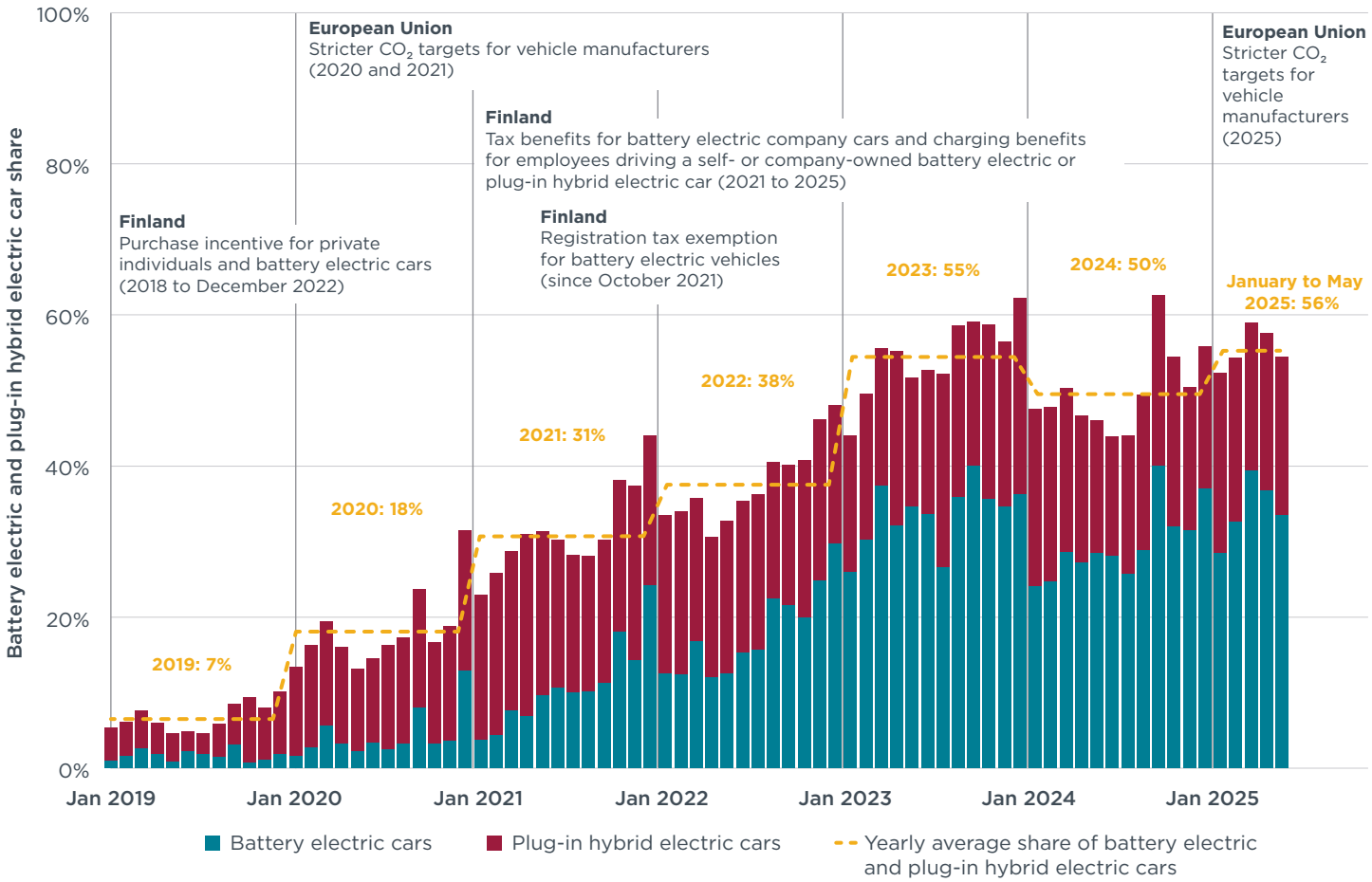
	January to May 2025			Change from January to May 2024		
Finland	BEV	PHEV	Total	BEV	PHEV	Total
Total	10,235	6,339	29,803	+18%	-6%	-8%

HISTORICAL DEVELOPMENT

Finland's EV registration share rose by 11 percentage points between 2019 and 2020, and again by 13 percentage points between 2020 and 2021. The largest annual increase came between 2022 and 2023, when the EV share rose by 17 percentage points, from 38% to 55%. Although the annual EV registration share saw a slight decrease in 2024, BEVs and PHEVs still made up 50% of all new passenger car registrations that year.

Figure 7

Share of BEVs and PHEVs in new passenger car registrations in Finland and selected policy actions



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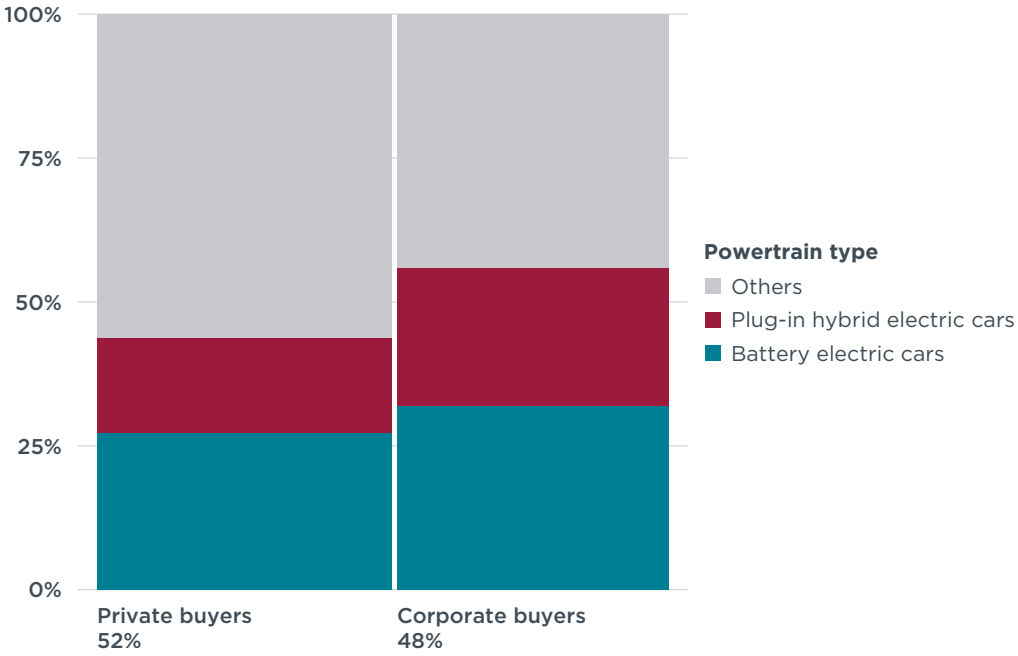
In 2024, approximately 74,000 new passenger cars were registered in Finland. New passenger car registrations were nearly evenly divided between private (52%) and corporate (48%) buyers. Among private registrations, 27% were BEVs and 16% were PHEVs. Corporate registrations showed higher EV adoption rates, with 32% BEVs and 24% PHEVs.

Figure 8

Share of BEVs and PHEVs in new passenger car registrations in Finland by owner type, 2024



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SELECTED NATIONAL-LEVEL DRIVERS OF EV UPTAKE

» **Purchase incentives and tax policy.** In 2018, Finland introduced a €2,000 purchase subsidy for new BEVs, available only to private households. This scheme ended in December 2022. Purchasers and owners of BEVs and PHEVs have also benefited from lower registration and ownership taxes compared with combustion engine cars. Since October 2021, purchasers of a BEV have been fully exempted from vehicle registration tax. As an example, the registration tax advantage for a small BEV versus a small gasoline car is almost €2,000, the sixth highest among 31 European countries assessed.[11] Owners of a BEV also benefit from minimum annual ownership tax rates. In addition, after-tax benefits on electric company cars support continued growth.

» **Public charging infrastructure and home charging potential.** Finland continues to expand its public charging infrastructure network.[12] As of 2023, 62% of the population lived in detached or semi-detached homes with potential access to home charging.[13]

KEY DRIVERS OF ELECTRIC VEHICLE UPTAKE

A mix of factors have shaped EV uptake in leading European markets. These include:

- **EU and national policies.** Regulations like the European Union's CO_2 emission targets for cars push vehicle manufacturers to bring more EVs to the market. Stricter CO_2 targets were introduced in 2020 and 2021, as well as in 2025, encouraging EV uptake. Financial incentives such as subsidies and tax benefits can make EVs cost-competitive with internal combustion engine vehicles, with added advantages from lower running costs and favorable electricity prices. Support for home chargers, photovoltaic systems, and expanding public charging infrastructure can also promote adoption and improve convenience.
- **Technological advancements.** Enhanced battery range and improved vehicle performance can help overcome practical barriers and make EVs a more attractive option for consumers.
- **Public awareness and sociocultural factors.** Information campaigns and media coverage can increase awareness and interest in EVs while helping to alleviate concerns and biases. Sociodemographic, geographic, and cultural factors such as income, education level, age, location, environmental values, and social equity can also shape public support for EVs and influence purchasing decisions.*

* For more information, see: David Ashmore et al., "The Symbolism of Hybrid and Electric Cars Across National Cultures: Potential Implications for Policy Formulation and Transfer," *Transportation Research Part D Transport and Environment* 63 (2018), https://doi.org/10.1016/j.trd.2018.06.024; Adam Novotny et al., "National Culture and the Market Development of Battery Electric Vehicles in 21 Countries," *Energies* 15, no. 4 (2022), https://doi.org/10.3390/en15041539; Ioana Ancuta Iancu et al., "The Influence of Cultural Factors on Choosing Low-Emission Passenger Cars," *Sustainability* 15 (2023), https://doi.org/10.3390/su15086848; Jana Plananska, Rolf Wüstenhagen, and Emanuel de Bellis, "Perceived Lack of Masculinity as a Barrier to Adoption of Electric Cars? An Empirical Investigation of Gender Associations with Low-Carbon Vehicles," *Travel Behaviour and Society* 32 (2023), https://doi.org/10.1016/j.tbs.2023.100593; Axel Franzen and Dominikus Vogl, "Two Decades of Measuring Environmental Attitudes: A Comparative Analysis of 33 Countries," *Global Environmental Change* 23, no. 5 (2013), https://doi.org/10.1016/j.gloenvcha.2013.03.009; Zuzsanna Bacsi, "Environmental Awareness in Different European Cultures," *Visegrad Journal on Bioeconomy and Sustainable Development* 9, no. 2 (2020), https://sciendo.com/article/10.2478/vjbsd-2020-0010; Joseph Anthony L. Reyes, "How Different Are the Nordics? Unravelling the Willingness to Make Economic Sacrifices for the Environment," *Sustainability* 13, no. 3 (2021), https://doi.org/10.3390/su13031294.

DEFINITIONS AND DATA SOURCES

» **Technical scope.** This market spotlight focuses on new passenger car registrations. In this analysis, EVs include BEVs and PHEVs. BEVs are powered exclusively by an electric motor, with no additional source of propulsion. PHEVs combine a conventional combustion engine with an electric propulsion system that can be recharged via an external power source.

» **Policy frameworks.** In Denmark, taxation policies differentiate between zero- and low-emission vehicles. Zero-emission vehicles are those that emit 0 g CO_2/km; based on today's technology, this means BEVs and fuel-cell electric vehicles. Low-emission vehicles, by contrast, are defined as those that emit between 1 and 49 g CO_2/km, typically meaning PHEVs. Finland's and Sweden's vehicle taxation systems are also based on a vehicle's CO_2 emissions and not the type of technology it uses.

» **Geographic scope.** Data on new car registrations and EV shares include European Economic Area countries, with the exception of Bulgaria, Liechtenstein and Malta.

» **Data sources.** New passenger car registration data are from Dataforce and charging infrastructure data are from EcoMovement. Other sources used in this analysis are:

Denmark

Statistics Denmark, *New Registrations and Used Cars*, accessed July 25, 2025, from https://www.dst.dk/en/Statistik/emner/transport/transportmidler/nyregistrerede-og-brugte-biler.

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Finland

Statistics Finland, *121d - First Registrations of Cars by Driving Power, Purpose of Use and by Possessor, Monthly, 2014M01-2025M05*, accessed July 25, 2025, https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__merek/statfin_merek_pxt_121d.px/.

Sweden

Mobility Sweden, *Databas Nyregistreringar* [Database New Registrations], accessed July 25, 2025, https://mobilitysweden.se/statistik/databas-nyregistreringar.

» **Owner types.** Owner types are classified as either private or corporate. Corporate registrations refer to vehicles owned by companies or other legal entities and used for business purposes, including company cars and municipal fleets.

» **Statistical territorial units and urban-rural typology.** The Nomenclature of Territorial Units for Statistics (NUTS) is a geographical classification system used within the European Union for statistical purposes. It distinguishes between

three hierarchical levels: NUTS 1, NUTS 2, and NUTS 3. We use the NUTS 2024 classification valid from January 1, 2024.[14] In Sweden, the NUTS 3 regions correspond to the country's 21 counties. To further classify NUTS 3 regions, this publication uses the urban-rural typology, which distinguishes between three types of regions: predominantly urban, intermediate, and predominantly rural. In urban regions, more than 80 percent of the population lives in urban clusters, meaning contiguous grid cells of 1 km^2 with a population density of at least 300 inhabitants per km^2 and a minimum total population of 5,000. Intermediate regions are those where more than 50 percent and up to 80 percent of the population lives in urban clusters. Regions are considered rural if at least 50 percent of the population lives outside urban centers or urban clusters.

ENDNOTES

1 European Automobile Manufacturers' Association, "Electric Cars: Lower-Income Countries Fall Behind, with Uptake Linked to GDP per Capita," press release, July 6, 2021, https://www.acea.auto/press-release/electric-cars-lower-income-countries-fall-behind-with-uptake-linked-to-gdp-per-capita/.

2 The figures are similar for the top 10 newly registered BEVs in the first quarter of 2025. By comparison, in Germany—the largest passenger car market in Europe by new registrations—of the top 10 BEVs registered in 2024, which accounted for 47% of all new BEV registrations, 64% were SUVs.

3 Gianluca Trotta and Stephan Sommer, "The Effect of Changing Registration Taxes on Electric Vehicle Adoption in Denmark," *Transportation Research Part A: Policy and Practice,* 185 (2024): 104117, https://doi.org/10.1016/j.tra.2024.104117; Danish Customs and Tax Administration, "Orientering om Vedtagelse af Lovforslag om Ændringer af Afgifter på Motorområdet – Aftale om Grøn Omstilling af Vejtransporten [Information on the Adoption of a Bill on Changes to Taxes in the Motor Sector – Agreement on the Green Transition of Road Transport]," 3 January 2023, https://info.skat.dk/data.aspx?oid=2299953.

4 Danish Motor Vehicle Agency, "Registration Tax and Rates," accessed July 27, 2025, https://motorst.dk/en-us/individuals/vehicle-taxes/registration-tax/registration-tax-and-rates.

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6 Michelle Monteforte and Sonsoles Dìaz, *European Market Monitor: Cans and Vans (March 2025*) (International Council on Clean Transportation, 2025), https://theicct.org/publication/european-market-monitor-cars-and-vans-march-2025-apr25/.

7 Eurostat, *Housing in Europe – 2024 Edition* (2024), https://ec.europa.eu/eurostat/web/interactive-publications/housing-2024#how-we-live.

8 Uwe Tietge, "Lessons Learned from Sweden's Electric Vehicle Rollercoaster," *International Council on Clean Transportation Staff Blog*, February 14, 2017, https://theicct.org/lessons-learned-from-swedens-electric-vehicle-rollercoaster/; Sandra Wappelhorst and Uwe Tietge, "Sweden's New Bonus-Malus Scheme: From Rocky Roads to Rounded Fells?," *International Council on Clean Transportation Staff Blog,* October 8, 2018, https://theicct.org/swedens-new-bonus-malus-scheme-from-rocky-roads-to-rounded-fells/; Sandra Wappelhorst, "Incentivizing Zero- and Low-Emission Vehicles: The Magic of Feebate Programs," *International Council on Clean Transportation Staff Blog*, June 8, 2022, https://theicct.org/magic-of-feebate-programs-jun22/.

9 Transport & Environment, *Which Taxes*.

10 Eurostat, *Housing in Europe*.

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12 European Alternative Fuels Observatory, "Finland: Infrastructure," accessed July 27, 2025, https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/finland/infrastructure.

13 Eurostat, *Housing in Europe*.

14 "NUTS – Nomenclature of Territorial Units for Statistics," Eurostat, accessed July 27, 2025, https://ec.europa.eu/eurostat/web/nuts.

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