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From Push to Pull: Accelerating Europe's BEV Transition in the Final Run-Up to 2035

Bridging the Policy-Action Gap in Europe's Electric Vehicle Market: Data-Driven Insights on Market Evolution, Targets, and Incentive Phase-Out Strategies Based on EAFO Analysis

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Executive Summary

Europe's electric vehicle landscape is rapidly evolving as 2035, the year of the proposed ICE phase-out, draws closer. Policymakers and industry stakeholders face the challenge of fine-tuning incentives to maintain momentum while ensuring cost-effective use of public funds. Using the European Alternative Fuels Observatory (EAFO) data, this paper provides a benchmark of EU countries' progress, spotlighting front-runners and laggards. It highlights the disconnect between ambitious national targets and actual BEV uptake and explores how shifting market realities are pushing governments to transition from broad subsidies to tailored incentives that address hard-to-reach user segments and vehicle categories. Concrete examples show how some Member States are revamping their policy portfolios to deliver maximum impact, and how sharing best practices can guide others. Ultimately, this study offers actionable insights to help national decision-makers navigate the final stretch towards a sustainable, zero-emission mobility system.

1 Introduction and Context

The European Union (EU) has set ambitious targets to reduce carbon dioxide (CO_2) emissions from new passenger cars and light-commercial vehicles, aiming for a 15% reduction by 2025 and a 37.5% reduction by 2030, relative to 2021 levels. These measures are designed to steer the automotive industry towards achieving 100% zero-emission vehicle sales by 2035. However, the path to this transition is complex, with varying levels of readiness and commitment among Member States. Recent developments indicate that some countries and political groups are reconsidering the 2035 deadline, citing concerns over economic impacts and industry preparedness. In this evolving landscape, the European Alternative Fuels Observatory (EAFO) serves as a vital resource, offering comprehensive data and analysis on the adoption of alternative fuels and vehicles across Europe. EAFO's extensive datasets encompass vehicle registrations, charging infrastructure, and policy measures, providing stakeholders with the insights needed to monitor progress and identify areas requiring targeted interventions. By delivering up-to-date information, EAFO supports evidence-based policymaking and facilitates the EU's transition towards sustainable mobility.

2 Shifting Targets and Market Reality

The European Union (EU) has set ambitious targets to accelerate the adoption of electric vehicles (EVs), aiming for 30 million zero-emission cars on the road by 2030. Germany, as Europe's largest automotive market, has aligned with this vision by setting its own target of 15 million EVs by the same year. However, recent data indicates a significant gap between these aspirations and current market realities. Figure 1 demonstrates how the EU-27 target is getting out of reach, as of end of 2024, and a simple linear projection estimates that the EU will fall behind the target, with 7,5 million BEVs.

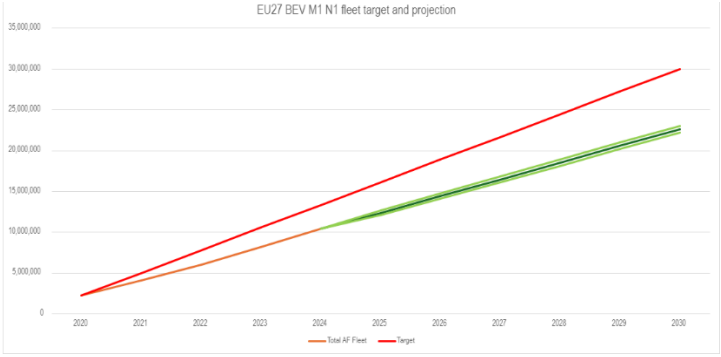

Figure 1: The EU target of 30 million BEVs and the linear projection of the total EV fleet until Q3 2024 in the EU-27

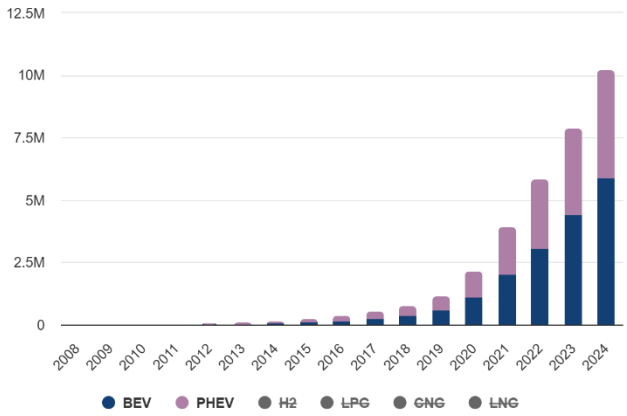

Figure 2: EV fleet of the EU 27 showed steady growth until 2024. (EAFO, 2025)

Battery Electric Vehicle (BEV) adoption rates across the EU have shown steady growth, yet they fall short of the trajectories needed to meet the 2030 objectives. Germany's situation is particularly concerning; following the abrupt removal of BEV purchase incentives in September 2023, the country's BEV market share declined from a peak of 18,28% in 2023 to 13,47% in 2024. Figure 3 illustrates this divergence. The policy shift not only affected Germany but also skewed overall EU BEV adoption figures, given Germany's substantial market influence. In contrast, other EU Member States have maintained or increased their BEV market shares, highlighting the critical role of consistent policy support in driving EV adoption.

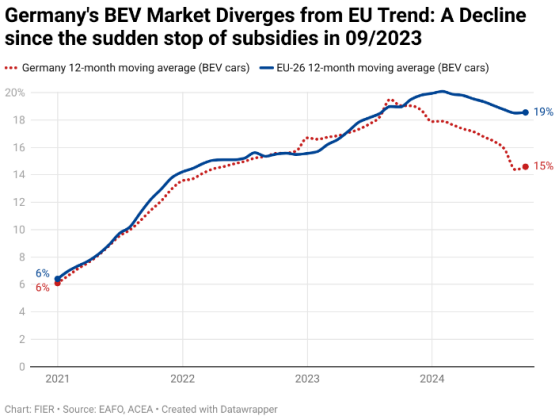

Figure 3: 12-month moving average of BEV car market share (%) in Germany and EU-26 (EU27 without Germany).

Recent data presents a nuanced picture of BEV adoption across Europe. While headlines often highlight challenges such as slower uptake in certain segments or countries, a deeper analysis reveals a more complex reality. Figure 4 shows, that the BEV market was growing in the EU, and the national shift in policy in Germany affected the whole EU market substantially as without Germany the figures still show a growth in total BEV registrations.

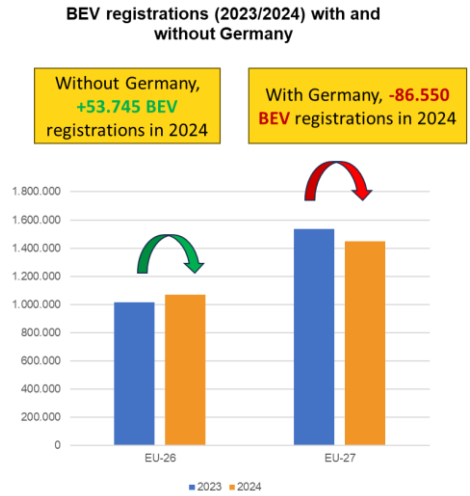

Figure 4: BEV registrations Y-o-Y in EU-26 without Germany, and EU-27.

In the first quarter of 2025, the BEV market showed strong signs of recovery. New BEV registrations in the EU surged by 23.9% year-on-year, reaching 412,997 units and capturing 15.2% of total EU market share. This resurgence was driven by particularly strong performance in three of the four largest markets, which together accounted for 63% of all EU BEV registrations: Germany (+38.9%), Belgium (+29.9%), and the Netherlands (+7.9%). In contrast, France recorded a decline of 6.6%, suggesting diverging trends among the leading markets. This rebound suggests growing consumer confidence and potentially stabilizing policy environments, pointing to a more optimistic trajectory for BEVs in the remainder of 2025.

3 Market Benchmark: Best and Worst Performers

In 2024, the growth of battery electric vehicles (BEVs) in Europe presented a mixed picture, with significant differences in market dynamics across countries. Among the 14 countries analyzed, some markets experienced substantial expansion, while others saw notable contractions in BEV market share. The most pronounced growth occurred in Belgium (+46.40%) and Denmark (+42.71%), reflecting strong consumer uptake and the consolidation of electric mobility in these markets. Luxembourg (+18.20%), the United Kingdom (+18.23%), and the Netherlands (+12.88%) also reported healthy growth, suggesting sustained demand and market confidence. Norway, despite its already high BEV penetration, managed a solid +8.50% increase, confirming continued momentum even in mature markets. France remained largely stable, with a modest gain of +1.14%. Conversely, several countries experienced declines in BEV market share. Iceland registered the steepest drop at -48.32%, followed by Germany (-26.32%) and Ireland (-23.33%), indicating significant market headwinds. Other countries with shrinking BEV shares included Finland (-12.92%), Austria (-11.69%), Sweden (-8.91%), and Switzerland (-8.66%).

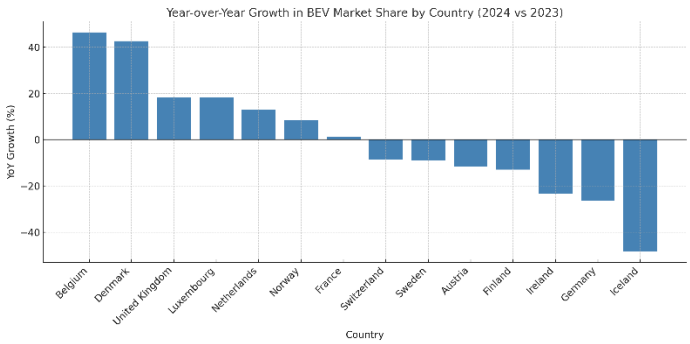

Figure 5: Year-on-Year growth rates of selected EU-27 countries in the period January - October 2023/2024

Density of recharging infrastructure

The density of recharging infrastructure is a crucial factor in supporting Battery Electric Vehicle (BEV) adoption, and the variation among EU Member States is striking. Bulgaria leads with 0.348 recharging points per BEV, suggesting relatively better infrastructure readiness despite its low BEV market share. The Netherlands follows with 0.202 chargers per BEV, reflecting its well-established reputation for a robust charging network. Croatia (0.165), Slovakia (0.162), and Greece (0.155) round out the top five, demonstrating

notable efforts in aligning infrastructure with growing BEV adoption.
At the other end of the spectrum, major markets like Germany (0.044 chargers per BEV) and Ireland (0.029) lag significantly behind, signaling potential bottlenecks in infrastructure deployment. Malta, with a meager 0.010 chargers per BEV, represents the least developed charging network in the EU. These disparities underscore the need for targeted investments and coordinated strategies to ensure infrastructure keeps pace with BEV adoption, particularly in countries with ambitious electrification targets but insufficient recharging capacity.

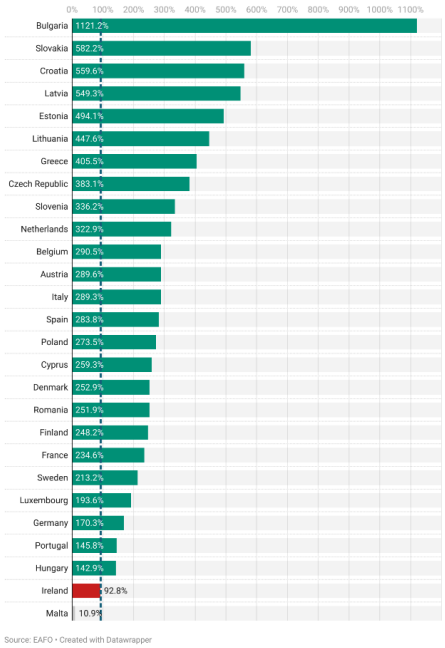

Figure 6: Compliance of EU countries regarding fleet-based targets as of 2024

4 Overview of Recent Incentive Changes

Austria

Overview of Key Changes and Timeline: Austria has progressively adapted its EV incentive scheme since launching purchase subsidies in 2017, initially around €4,000. The amount was reduced in 2019 to €3,000, then increased significantly to €5,000 in 2020 as part of a joint effort between the government and automotive sector. This higher subsidy level was maintained through 2023 and 2024, albeit with stricter eligibility requirements and an eventual focus solely on BEVs and FCEVs. The national "E-Mobilität 2024" program ended prematurely in February 2025 due to budget constraints, and no new national-level purchase subsidies have been announced since. Additionally, as of April 2025, BEVs are no longer exempt from the motor-related insurance tax—marking a notable rollback of cost advantages.

Overview of Current Situation (2025): Despite the termination of national purchase subsidies, Austria maintains a favorable fiscal environment for zero-emission vehicles through registration tax exemptions (NoVA), company car tax benefits, and VAT deductions. BEVs remain exempt from the NoVA registration tax, and companies benefit from a 10% investment premium, VAT deductions up to €40,000, and no benefit-in-kind taxation on employee use. Local and regional support schemes are active, including subsidies in Vienna, Lower Austria, and Burgenland. A striking indicator of Austria's tax policy is the differential in total taxes applied to electric versus petrol SUVs: a compact electric SUV results in a net tax benefit of –€6,536, compared to €24,699 in taxes on a compact petrol SUV—yielding a €31,235 difference in taxation. This highlights Austria's continued structural support for electrification, even after the end of direct purchase subsidies.

Belgium

Overview of Key Changes and Timeline: Belgium's EV incentive landscape has evolved significantly over the past decade, with regional authorities—Flanders, Wallonia, and Brussels—each implementing tailored

policies. Flanders pioneered reforms in 2012 by integrating CO_2 emissions into its vehicle registration tax (BIV), setting a foundation for EV-friendly taxation. A direct EV purchase subsidy was introduced in 2016 but discontinued in 2020. In 2024, the subsidy was briefly reinstated (€5,000 for new BEVs under €40,000), triggering a surge in registrations, before being terminated early in November due to budget exhaustion. Corporate incentives have remained stable, with 100% deductibility for BEVs introduced in 2020 and scheduled to phase down to 75% by 2031. Wallonia, meanwhile, has recently revised its registration tax scheme to favor smaller, more efficient EVs, effective from July 2025.

Overview of Current Situation (2025): As of 2025, Belgium's national subsidy scheme is no longer active, but tax-based benefits continue to play a crucial role. BEVs are fully exempt from registration and circulation taxes in Flanders and subject to minimal rates in Wallonia and Brussels. Corporate tax policies remain highly supportive, including full deductibility of BEV costs and charging electricity. VAT on electricity is reduced to 6%, further lowering operational costs. Additional tax deductions are available for private and business charging infrastructure. Despite the termination of public charger cost deductions in 2024, the tax framework strongly favors EVs. This structural support is clearly illustrated by the total tax burden comparison between powertrains: a compact electric SUV in Belgium results in –€2,878 in taxes, while a comparable compact petrol SUV incurs €12,280—producing a €15,158 tax advantage for the electric model in the business market. This justifies the high market share in the private market, while a more decent €3,683 advantage in the private market is the lower market share for the private consumers.

Denmark

Overview of Key Changes and Timeline: Denmark's electric vehicle (EV) policy has been shaped by strategic reforms to its vehicle registration tax—a tool central to its fiscal and environmental strategy. Until 2016, EVs were fully exempt from the country's high registration tax, helping spark an early surge in sales. However, starting in 2016, EVs became subject to 20% of the standard registration tax, leading to a market collapse. To counteract this, the government froze the rate at 20% until 2019, before implementing a new tax scheme in 2020. Under this scheme, EVs faced a 40% registration tax rate from 2021, softened by temporary battery size-based deductions, which were phased out by 2025. A gradual increase to 80% tax alignment is scheduled by 2030, with full parity (100%) between EVs and ICE vehicles by 2035. This long-term roadmap is designed to balance the maturing EV market with fiscal sustainability. Despite the absence of purchase subsidies, Denmark has continued to support EVs through infrastructure funding and tax incentives for both private and corporate use.

Overview of Current Situation (2025): As of 2025, Denmark's incentives are fully tax-based. EVs are still taxed at a reduced registration rate (40%), though this will begin rising annually from 2026. Base deductions have expired, slightly increasing BEV purchase costs. Nevertheless, BEVs benefit from significantly lower ownership taxes and favorable company car tax treatment. Charging-related benefits include electricity tax refunds, tax-free workplace charging, and support for infrastructure installation in residential buildings. The effectiveness of Denmark's fiscal structure is evident in the **stark tax differential** between BEVs and petrol vehicles. For **private buyers**, a compact electric SUV incurs **€1,126** in taxes, versus **€45,213** for a petrol equivalent—yielding a **€44,087 difference**. In the **business segment**, the tax gap remains striking: an electric SUV costs **€23,603** in taxes, while its petrol counterpart reaches **€66,942**, representing a **€43,339 tax advantage**. These figures highlight how Denmark continues to prioritize zero-emission vehicles through tax incentives, despite transitioning away from direct subsidies.

France

Overview of Key Changes and Timeline: France's EV incentive framework has evolved considerably since the introduction of the bonus-malus system in 2008, which rewards low-emission vehicles and penalizes high-emission ones. The ecological bonus peaked at €7,000 in 2020 during the post-COVID recovery period but has since undergone multiple reductions. By 2024, the bonus dropped to €4,000, and in 2025 it became income-dependent, ranging from €2,000 to €7,000, with additional bonuses for low-income households through the social leasing scheme. Notably, used BEV subsidies were discontinued in December 2024, and company passenger cars lost bonus eligibility entirely. At the same time, the malus system (CO_2-based penalty) has become stricter, with the top penalty rising to €70,000 in 2025 for highly polluting vehicles. These changes illustrate France's transition from universal financial support to more targeted, equity-oriented and regulation-driven approaches to decarbonizing its vehicle fleet. These changes still sustained growth through the years (Figure 8).

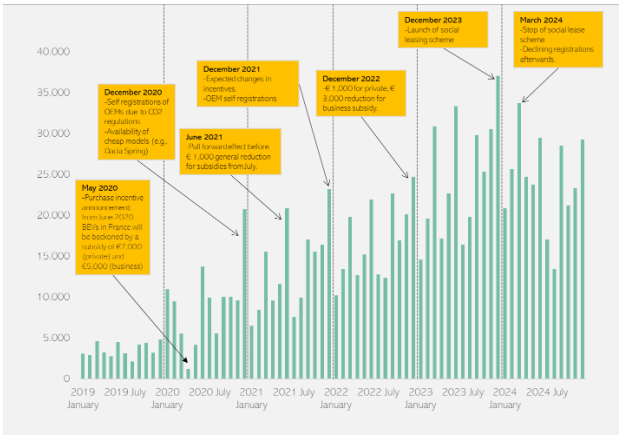

Figure 7: Chronological overview of the impact of incentive changes on BEV registrations in France since 2019

Overview of Current Situation (2025): As of 2025, France offers a mix of scaled purchase bonuses, tax exemptions, and robust infrastructure support. BEVs are exempt from the CO_2-based registration tax and benefit from regionally variable reductions in circulation taxes. Employers and businesses enjoy several fiscal benefits, including BIK reductions, tax credits for charging infrastructure, and partial VAT refunds. Local subsidies further incentivize private and fleet adoption. Although direct purchase support is more limited compared to earlier years, the policy architecture remains strongly supportive of BEVs.
This is reflected in the **total tax burden** comparison:

- For **private buyers**, a compact electric SUV incurs **–€2,000** in total taxes, while a comparable petrol SUV faces **€4,069**, resulting in a **€6,069 tax advantage** for BEVs.
- In the **business segment**, the tax difference is even more significant: **€1,865** for a compact BEV versus **€26,261** for a petrol SUV—a **€24,396** gap.

Germany
Overview of Key Changes and Timeline: Germany's EV incentive journey began with the introduction of a 10-year vehicle tax exemption in 2012 and was significantly reinforced in 2016 with the launch of the "Umweltbonus" purchase subsidy scheme. This program provided up to €5,000 for private BEV buyers, and its rollout marked a major expansion in the federal government's support for electric mobility. In 2019, the government added a corporate tax incentive by reducing the benefit-in-kind (BIK) rate for BEV company cars. From 2023 onward, the incentive framework saw substantial cutbacks: subsidies were reduced in January and then abruptly ended in December due to constitutional budgetary constraints. In 2024, a new depreciation allowance (up to 40% in the first year) was introduced to support corporate EV purchases. Adjustments in 2025 extended the 10-year tax exemption for BEVs and raised the price cap for favourable BIK taxation to €95,000. These policy shifts reflect Germany's transition from direct financial subsidies to tax- and infrastructure-based incentives, particularly targeted at the corporate sector.
Overview of Current Situation (2025): As of 2025, Germany no longer offers direct purchase subsidies for private buyers. However, BEVs continue to enjoy a 10-year exemption from the motor vehicle tax and are not subject to registration tax (unlike in many EU countries). The tax system for company cars remains favourable, with low BIK rates and new special depreciation options supporting business uptake. Charging infrastructure expansion is backed by federal programs like Deutschlandnetz and regional initiatives such as Thuringia's Klima Invest.
Tax treatment differences illustrate the ongoing support for electrification:

- For **private buyers**, a compact electric SUV is fully exempt from taxes (**€0**), while a comparable petrol SUV incurs **€1,535**, yielding a modest but still relevant **€1,535 tax advantage**.
- In the **business segment**, the fiscal differential is more pronounced. A compact BEV results in a tax benefit of **–€11,471**, compared to **–€2,753** for a petrol SUV—resulting in an **€8,718 net advantage** in favour of the electric option.

Netherlands
Overview of Key Changes and Timeline: The Netherlands has implemented a structured and phased approach to EV incentives, beginning in 2009 with full exemptions from both registration tax (BPM) and annual road tax (MRB). These fiscal incentives catalysed early adoption. While the complete BPM exemption

for corporate BEVs ended in 2013, and was gradually phased out for private buyers, a national purchase subsidy (SEPP) was introduced in 2020—starting at €4,500 and declining annually. This was complemented by the SEBA scheme for vans. Both ended in 2025, marking a transition from purchase-based incentives to a tax-based system. As of 2025, BEVs are no longer exempt from BPM and instead pay a flat €667 rate, while MRB stands at 25% of the standard rate (rising to 100% by 2030). Business users also benefit from a favourable Benefit-in-Kind (BIK) regime—17% of the first €30,000 of list price until its scheduled removal in 2026. This evolution reflects confidence in market maturity and a shift toward mainstreaming EVs within the existing tax framework.

Overview of Current Situation (2025): With direct subsidies phased out, the Dutch system now hinges on structural tax advantages and robust local support. The flat BPM (€667) and reduced MRB (25% in 2025, 75% from 2026) make BEVs significantly more cost competitive. Companies can still benefit from the MIA investment deduction (up to 14%), and corporate BEVs enjoy reduced BIK taxation. Local governments contribute with free public chargers on request, preferential parking, and grants for apartment building infrastructure.

This policy architecture results in considerable tax advantages:

- For **private buyers**, the total tax burden for a compact BEV is **€10,593**, compared to **€21,401** for a similar petrol SUV—yielding a **€10,808 benefit** in favour of BEVs.
- In the **business segment**, taxes on a compact electric SUV amount to **€11,086**, versus **€25,625** for the petrol counterpart—a **€14,539 tax advantage**.

These figures demonstrate how, even in the absence of direct subsidies, the Dutch tax system continues to strongly favour electric mobility, reinforcing the country's 2030 target of fully electrified new vehicle sales.

Norway

Overview of Key Changes and Timeline: Norway's EV policy timeline is one of the most ambitious and consistent globally. Starting in 1990 with exemptions from high purchase/import taxes, it introduced a full 25% VAT exemption in 2001, exempted EVs from road and ferry tolls, and provided usage benefits such as bus lane access. These measures were instrumental in achieving an 88.9% BEV market share by 2024. From 2017 onwards, exemptions began to phase out, including ferry and toll discounts (reduced to 50% and later 70%), and the road tax was reintroduced in 2021. In 2023, a weight-based purchase tax and a partial rollback of the VAT exemption (limited to NOK 500,000) were introduced, increasing the cost burden for EVs. Despite these changes, no purchase subsidies were ever offered—Norway's policy has relied on taxation shifts and user incentives. By 2025, the policy focus shifted toward zero-emission targets for heavy-duty vehicles and sustainable long-term funding for infrastructure.

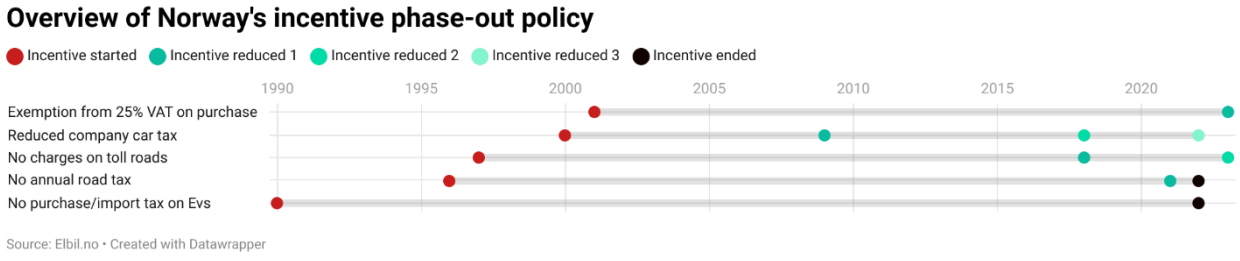

Figure 8: Overview of incentives phase out process in Norway

Overview of Current Situation (2025): Norway still offers a highly favourable environment for EVs, particularly through the partial VAT exemption, relatively lower weight-based taxes compared to ICE vehicles, capped toll and ferry charges, and robust infrastructure. Local governments support charging through generous funding for housing associations, and most municipalities still provide some level of free or discounted EV parking.

The cost advantage remains significant:

- For **private buyers**, a compact BEV faces a **–€5,147** tax burden, while a petrol equivalent incurs **€22,130**—a **€27,277 advantage** for the electric option.
- In the **corporate segment**, BEV taxation totals **€15,297** versus **€54,729** for petrol, yielding a **€39,432 advantage**.

This immense fiscal gap illustrates why Norway leads global EV adoption without needing direct subsidies. Instead, structural tax reform and systemic disincentives for ICE vehicles have made EVs the default consumer choice.

5 Phase-Out Strategies for Incentives

As BEVs approach Total Cost of Ownership (TCO) parity with Internal Combustion Engine (ICE) vehicles, numerous EU Member States are re-evaluating their incentive schemes. The shift from broad, untargeted purchase subsidies toward more focused, equitable support mechanisms marks a critical inflection point in Europe's e-mobility transition. However, as data shows, how and when incentives are withdrawn plays a decisive role in market stability and EV uptake trajectories.

5.1 Risks of Abrupt Subsidy Withdrawal

Germany offers a cautionary example. In 2023, the federal government abruptly terminated its "Umweltbonus" purchase subsidy program due to budget constraints. While the program had supported over 2 million EVs since 2016, its end led to a sharp 26.3% year-on-year drop in BEV market share in 2024, with registrations declining by over 112,000 units. Similarly, Iceland, which had previously achieved one of the highest BEV market shares in Europe at 57% in 2023, experienced a dramatic collapse to just 30% in 2024—a 48% contraction. This sharp decline followed the abolition of the VAT exemption for BEVs and the introduction of a kilometer-based road tax, significantly eroding the financial appeal of electric vehicles. Sweden also faced stagnation and reconfiguration of its BEV market in 2024. Following the termination of private purchase subsidies in November 2022, and a reduction in the benefit gap between BEVs and ICEs due to budget balancing efforts, the market shifted toward the corporate segment. By 2024, 66% of BEV purchases were by companies, up from 40% in 2022. This change has skewed the market toward larger, premium vehicles, with luxury BEVs representing 56% of all electric car sales in 2024, compared to 33% in 2022. While total BEV market share has continued to grow, the burden of growth has fallen disproportionately on company fleets, leaving private buyers increasingly excluded.

Despite maintaining vehicle tax exemptions or partial tax advantages, these countries demonstrate that abrupt or insufficiently calibrated phase-outs—particularly without protective measures for lower-income or private buyers—can destabilize the market. These examples underscore the importance of a phased, strategically communicated, and socially balanced withdrawal of subsidies, with attention to structural tax reforms and continued support for segments at risk of being left behind.

5.2 Transition Toward Targeted Support

As EU countries move beyond the early adoption phase of electric vehicles, a growing number are shifting from universal purchase subsidies to more **targeted and socially equitable incentives**. These reforms aim to maintain adoption momentum while improving the cost-effectiveness of public support and expanding access to harder-to-reach consumer groups. Several countries now explicitly prioritize low-income buyers, rural users, families with high mobility needs, and the used BEV market.

France: Income-Based and Social Leasing Incentives - France exemplifies a measured and inclusive strategy. After gradually scaling down its ecological bonus, France introduced an income-tiered subsidy in 2025 ranging from **€2,000 to €7,000**, available only to households with reference tax income per unit (RFR) under defined thresholds. The **Social Leasing Program**, relaunched in 2025, provides BEVs to low-income households for **€100–150/month**, effectively democratizing access to e-mobility. These targeted measures are supported by continued tax advantages, including one of the highest fiscal gaps between BEVs and ICEs in Europe.

Austria: Regional and Rural Focus - Austria maintained a national €5,000 subsidy for BEVs until early 2025 but pivoted to **regional programs and tax-based incentives** once the federal budget was exhausted. Local schemes, like Vienna's shared charging infrastructure support and Lower Austria's €1,000 purchase grant,

continue to direct benefits to specific use cases such as multi-dwelling units and rural adopters. Austria also imposed **eligibility thresholds for vehicle price**, with maximum limits of €50,000 for private and €60,000 for commercial buyers under previous subsidy schemes.

Belgium: Predictable Tax Reform for Corporate Shift - Belgium's 2024 Flanders scheme introduced **price caps** for eligible BEVs (€40,000 for new, €60,000 for used) and was income unlinked. However, **Wallonia's 2025 reform of its registration tax (TMC)** introduced a progressive system based on **CO_2 emissions, weight, and power**, significantly benefiting smaller and more efficient BEVs (e.g., Renault 5 taxed at €50 vs. VW ID.4 at €334). This marks a shift from broad subsidies to differentiated tax design based on vehicle utility and environmental impact.

Netherlands: Second-Hand Market and Urban Access - The Netherlands phased out its national SEPP and SEBA subsidy programs in 2025 but had already implemented **support for the second-hand BEV market**, a critical lever for inclusivity. Municipalities continue to provide free public chargers on request and localized purchase bonuses. The Dutch policy mixes targeted **residual value optimization and lifecycle cost reduction**, especially for middle-income and urban households, however, with the phase out of the subsidy, currently as of April 2025, only the corporate market shows growth, while private buyers left behind (Figure 9).

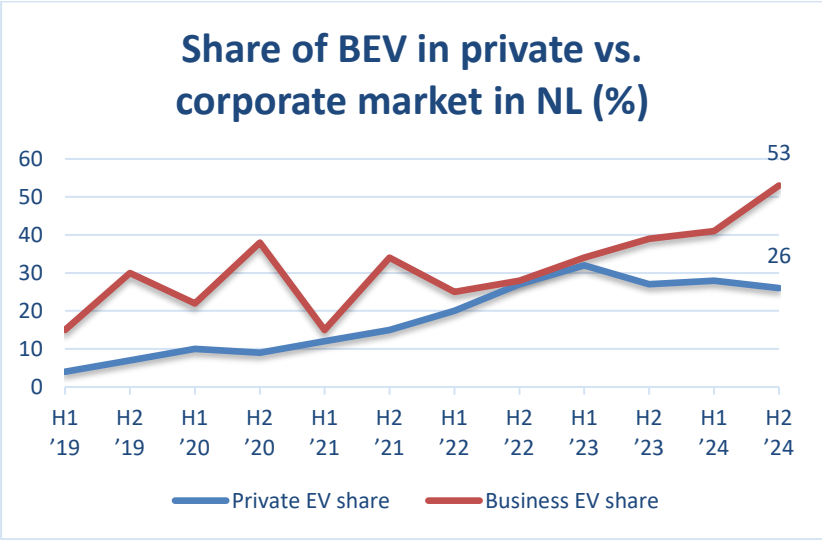

Figure 9: BEV market share in the private and corporate markets

Italy: Income-Conditioned Ecobonus - Italy offers one of the most income-sensitive purchase subsidies in the EU. As of 2025, BEV buyers with annual incomes below **€30,000** are eligible for higher bonuses under the **Ecobonus scheme**, especially when scrapping a polluting ICE vehicle. Since 2025, new rules dramatically favour EVs – the taxable value of a company-provided EV for private use is only 10% of the standard amount (for PHEVs 20%), versus 50% for conventional cars, foreshadowing growth in the corporate market for 2025.

Poland: High-Mobility and Large Family Prioritization - Poland, while traditionally lagging in incentive volume, launched the **"My Electrician" Program**, which prioritizes **large families and high-mileage users**. These groups receive enhanced grants compared to general applicants, recognizing the higher return-on-investment in CO_2 savings and vehicle utilization. This program design aligns subsidy allocation with measurable environmental and social benefits.

Germany: broad and generic tax system, favouring larger ICE vehicles - Germany introduced progressive restrictions to its purchase subsidy (**Umweltbonus**) before its abrupt termination in December 2023. Beginning in 2023, the scheme excluded plug-in hybrids, reduced the bonus for BEVs based on price tiers, and eliminated corporate eligibility for passenger cars. These steps signalled a move toward prioritizing private low-emission vehicle ownership but lacked deeper social targeting such as income thresholds or regional differentiation. More importantly, Germany's **broader tax system remains largely generic and does not structurally favour specific user groups or vehicle types**. While BEVs benefit from a 10-year vehicle tax exemption and reduced

Benefit-in-Kind (BIK) rates for company cars, these incentives apply uniformly across income levels and vehicle sizes—providing limited granularity or strategic targeting. One notable exception was the Fleet Exchange Program (Sozial & Mobil), piloted between 2022 and 2023, which offered tailored support to non-profit social service providers for fleet electrification, including funding for both vehicles and charging infrastructure. This initiative demonstrated the potential of targeted interventions in sectors with predictable usage and public value, contrasting with the otherwise broadly applied national framework.

6 Best Practices

The data reveals that policy consistency and targeted incentives deliver the most significant impact in accelerating BEV adoption. Broad subsidies have successfully jump-started markets in early phases but are less effective in mature markets. Tailored approaches demonstrate how policies can address specific barriers to adoption. A well-coordinated roadmap that integrates incentives, infrastructure, and regulatory support ensures a balanced and sustainable market evolution.

Denmark: Predictable Transition, Sustained Momentum
Denmark exemplifies best practice in structured phase-out planning. Rather than withdrawing incentives abruptly, the government has introduced a **multi-phase tax roadmap**: the BEV registration tax, currently set at 40% of the ICE equivalent in 2025, will incrementally rise to **80% by 2030**, and 100% by 2035. This timeline provides a **clear and credible signal** to both consumers and industry. Despite the gradual tax increase, the **total tax advantage remains substantial**, exceeding **€44,000 for private buyers** and **€43,000 for corporate fleets**. As a result, BEV adoption continues to thrive, with BEVs accounting for over **51% of new vehicle registrations in 2024**, illustrating how **clarity and consistency trump high incentives** delivered erratically.

Belgium: Corporate Market Transformation through Fiscal Certainty
Belgium's policy trajectory provides another successful example. The gradual phase-out of ICE tax deductibility from 2021 to 2026 gave companies ample time to adapt. This **predictability reshaped corporate procurement**, with company BEVs rising from **8.8% in 2021 to 41.1% in 2024**. Crucially, the fiscal pathway also aligned with fleet turnover cycles, allowing procurement planning and price normalization to support uptake without market shocks.

France: Sequenced Reductions and Social Compensation
France's phased reductions of the ecological bonus—starting with PHEV exclusion and capped bonuses, followed by income-based targeting—were implemented **over several years**. The 2025 structure, offering **€2,000–€7,000** depending on household income, ensures that market segments still dependent on support remain protected. Additionally, measures such as **leasing schemes for low-income families** mitigate the impact of subsidy phase-outs while maintaining inclusivity. France also maintained favourable taxation on BEVs relative to ICEs, preserving a **€6,000–€24,000 fiscal advantage** even without upfront purchase subsidies.

The Netherlands: From Subsidies to Structure
The Netherlands has successfully transitioned from purchase subsidies to **structural tax advantages and local support mechanisms**. The SEPP subsidy, introduced in 2020, was gradually reduced and ended in 2025, without destabilizing the market. Key to this success was the **staggered reintroduction of modest registration (BPM) and road (MRB) taxes** for BEVs, combined with ongoing support for second-hand markets and municipal charging infrastructure. BEV market share remained robust, underpinned by predictable taxation and localized interventions rather than generous national grants.

7 Policy recommendations

Policymakers must continuously refine their strategies based on market performance, consumer behavior, and technological advancements. Leveraging robust analytics and comprehensive datasets, such as those provided by the European Alternative Fuels Observatory (EAFO), is essential for informed decision-making. By regularly benchmarking performance and sharing best practices, Member States can adopt data-driven approaches that adapt to the evolving market landscape, ensuring effective use of public funds and sustained momentum in the transition to zero-emission mobility.

As the BEV markets mature across Europe, the policy challenge is no longer to stimulate initial demand but to guide the market through a **sustainable, inclusive, and self-reinforcing transition**. This requires moving beyond short-term incentives toward a **cohesive fiscal, infrastructural, and regulatory environment** that ensures zero-emission mobility becomes the default option. The following strategic principles are offered to assist policymakers in designing robust, forward-looking EV policies that remain effective as the market evolves.

6.1 Shift from Broad Subsidies to Smart Targeting

Financial incentives must evolve from universal purchase subsidies to **targeted support mechanisms** that address structural barriers in underserved market segments. These include low-income households, rural drivers, high-mileage users, and social service operators. Incentives should be:

- **Income-scaled**, to optimize social equity and cost-efficiency.
- **Use-case linked**, reflecting operational characteristics such as daily mileage or shared use.
- **Lifecycle focused**, including support for second-hand BEV acquisition and scrappage of polluting vehicles.

6.2 Design Transparent and Predictable Phase-Out Pathways

Sudden changes in incentive frameworks create uncertainty, erode consumer confidence, and can reverse market gains. All fiscal instruments—including subsidies, tax deductions, or exemptions—should be accompanied by a **clearly communicated phase-out trajectory**, ideally spanning five or more years. This stability enables:

- Manufacturers to plan product pipelines and pricing strategies.
- Fleets to align procurement cycles with support availability.
- Consumers to time purchases without fear of missing out or being penalized.

6.3 Reform Vehicle Taxation to Reflect Environmental Externalities

Permanent fiscal reform is essential to sustain EV adoption after subsidies end. Vehicle taxation should be restructured to reflect:

- **CO_2 and pollutant emissions**, via registration and circulation tax multipliers.
- **Vehicle weight and size**, to avoid a shift toward unnecessarily large or resource-intensive models.
- **Lifecycle sustainability**, encouraging low-emission manufacturing and end-of-life practices.

A strong **tax differential** between electric and fossil-fuel vehicles—particularly in company car and fleet taxation—should be preserved and enhanced where possible.

6.4 Prioritize Structural Measures Over Short-Term Incentives

Public investments should increasingly focus on **structural enablers of electrification** rather than individual vehicle purchases. These include:

- Dense, reliable charging infrastructure across urban, rural, and highway corridors.
- Regulatory frameworks for home, apartment, and workplace charging readiness.
- Reforms to electricity tariffs, grid management, and VAT on charging to ensure affordability and grid stability.

Such structural measures create permanent conditions for EV adoption and reduce dependency on recurring subsidies.

6.5 Support the Second-Hand and Fleet Turnover Market

A healthy and inclusive EV ecosystem must ensure affordability beyond new vehicle buyers. This requires:

- Policies that encourage **fleet turnover**, such as scrappage bonuses and leasing incentives for high-

mileage sectors.
- **Incentives for purchasing used BEVs**, including battery certification schemes, warranty supports, or targeted grants.
- Development of **residual value assurance mechanisms** to reduce risk for both private and fleet buyers.

These interventions help spread the benefits of electrification to middle- and lower-income households while sustaining demand for new zero-emission models.

6.6 Integrate Social Equity into Climate Policy

Electrification must serve as a **tool for social cohesion, not just emissions reduction**. All mobility policies should undergo distributional impact assessments and aim to:
- Reduce the **cost burden** of car ownership and use for low-income groups.
- Prevent **technology lock-out** due to lack of infrastructure access or upfront affordability.
- Ensure a **just transition for affected workers and regions**, especially where conventional vehicle manufacturing or fuel retailing is concentrated.

Public investments in EV adoption should be seen not as subsidies for individual vehicles, but as **investments in cleaner air, lower operating costs, and inclusive modern mobility**.

8 Conclusions

The transition to zero-emission mobility by 2035 requires unprecedented coordination and policy alignment across the EU. Data-driven insights will play a critical role in addressing disparities, refining incentives, and scaling infrastructure. Harmonizing strategies and fostering cross-border learning are essential for ensuring that all Member States can meet shared climate and mobility goals. As the EU navigates the final stages of this transformation, consistency, collaboration, and evidence-based policymaking will remain the cornerstones of success.

Table 1: Overview of recommendations

Policy Area	Recommended Action	Objective
Incentive Design	Target subsidies by income, vehicle use, and second-hand market. Avoid universal schemes.	Maximize cost-effectiveness and equity of public funds.
Incentive Phase-Out	Establish clear, long-term phase-out timelines to maintain market confidence.	Prevent demand shocks and provide planning certainty.
Vehicle Taxation Reform	Tax vehicles based on CO_2, weight, and environmental footprint. Preserve BEV-ICE tax gap.	Incentivize sustainable choices through permanent fiscal signals.
Structural Investment	Invest in charging infrastructure, tariff reform, and building readiness regulations.	Enable widespread, reliable access to EV charging and reduce long-term costs.
Second-Hand & Fleet Support	Support scrappages, used BEV purchase grants, and residual value guarantees.	Broaden access to EVs and ensure lifecycle sustainability.
Social Equity Integration	Conduct equity assessments, support low-income groups, and ensure a just transition.	Ensure climate policy benefits all and avoids reinforcing inequality.

9 Acknowledgments

For our analysis we used the information on incentive policies and the vehicle sales data of the European Alternative Fuels Observatory (https://alternative-fuels-observatory.ec.europa.eu/) This is the European Commission's key reference portal for alternative fuels, infrastructure, and vehicles in Europe. The authors are managing as the lead partner in a consortium which is responsible for the European Alternative Fuels Observatory, on behalf of the EC. To properly conduct analysis, we rely on primary data sourced from the EAFO data portal, directly from Member States on policy and regulatory topics.

10 References

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11 **Presenter Biography**

	Máté Csukás holds a BSc degree in international businesses and MSc degree in Enterprise Development. He is currently a PhD candidate in Strategic Management in Corvinus University of Budapest. He works as a project manager for FIER Sustainable Mobility. His main responsibility is being the project manager of the European Alternative Fuel Observatory initiative for the European Commission`s DG MOVE. He is a researcher of various fields, including the strategic development of smart cities, inclusive government practices and smart and sustainable polices. He also works as consultant on smart and sustainable mobility, with special focus on electromobility policies and data. He is a task force leader in the Sustainable Transport Forum`s sub-group on best practices of public authorities to support the deployment of recharging infrastructure. He was consultant for the Ministry of Infrastructure and Water Management in the Netherlands and Ministries of Luxembourg on assignments regarding charging infrastructure and zero emission heavy duty polices.
	Harm Weken is since 1995 managing Partner of FIER Sustainable Mobility, a business development company in the international automotive sector, with a focus on sustainable and electric mobility. Harm is also involved in electric car sharing as co-founder of an electric B2B car sharing platform. Moreover Harm, supports electric mobility initiatives and the academic sector as board member, advisory council member and in scientific reviewing committees at universities and electric mobility foundations, in Europe and abroad. The core of the work of Harm and his company FIER, is (EU and national) project initiation and business development in electric mobility for private companies, public authorities, and consortia. During recent years, the focus has been on: Stimulating electric vehicle (EV) uptake in fleet; Effectiveness of national EV incentives and policies; Stimulating electric trucks in distribution and inner-city freight and Electric car sharing and smart charging infrastructure.
	Edwin Bestebreurtje MSc is partner and senior consultant of FIER Sustainable Mobility. Edwin has been specialized in business development projects in the automotive and mobility sector. He was responsible as project manager for developing the Automotive Campus in Helmond and project manager in European projects on (e-) mobility, such as SolutionsPlus, ENEVATE, I-CVUE and FREVUE. Edwin is also active in the field of research on EV uptake related to stimulation policies and strategies on recharging infrastructure and as coach for individual organisations in their transition towards sustainable mobility. Currently Edwin is responsible for the European Alternative Fuels Observatory (EAFO) which is THE knowledge platform for alternative fuelled transport in Europe owned by EC DG Move.