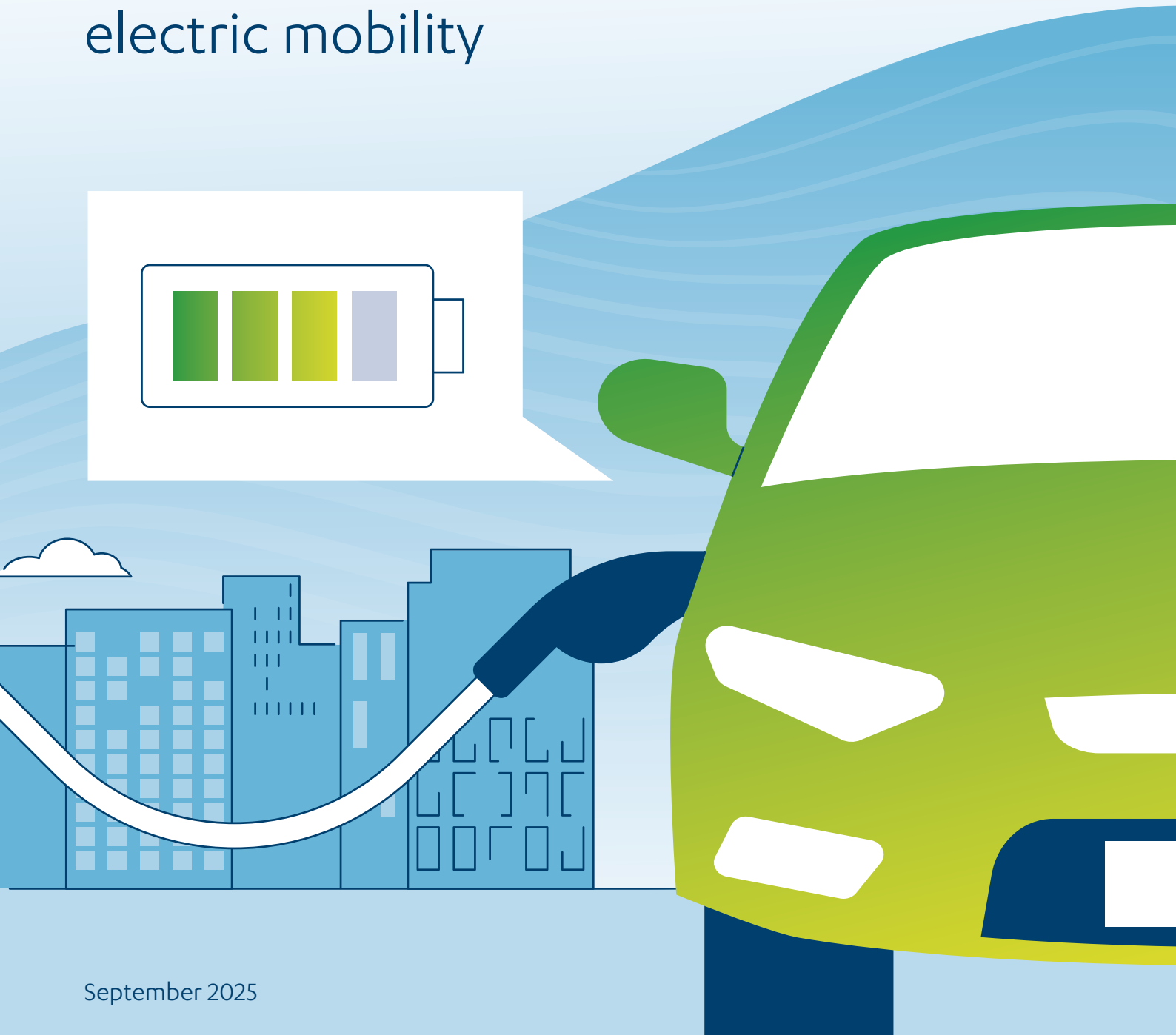
BEUC The European Consumer Organisation

From transition to reality:

A turning point for consumers' electric mobility



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1. Introduction

BEUC's latest total cost of ownership study reveals that electric cars are at a turning point in Europe, with the Total Cost of Ownership (TCO) of battery electric vehicle (BEVs) becoming competitive with conventional vehicles for first owners as early as 2026. *This is excluding national subsidies and tax breaks many countries have in place*[1].

TCO premium of a **new** electric car compared to a new petrol car

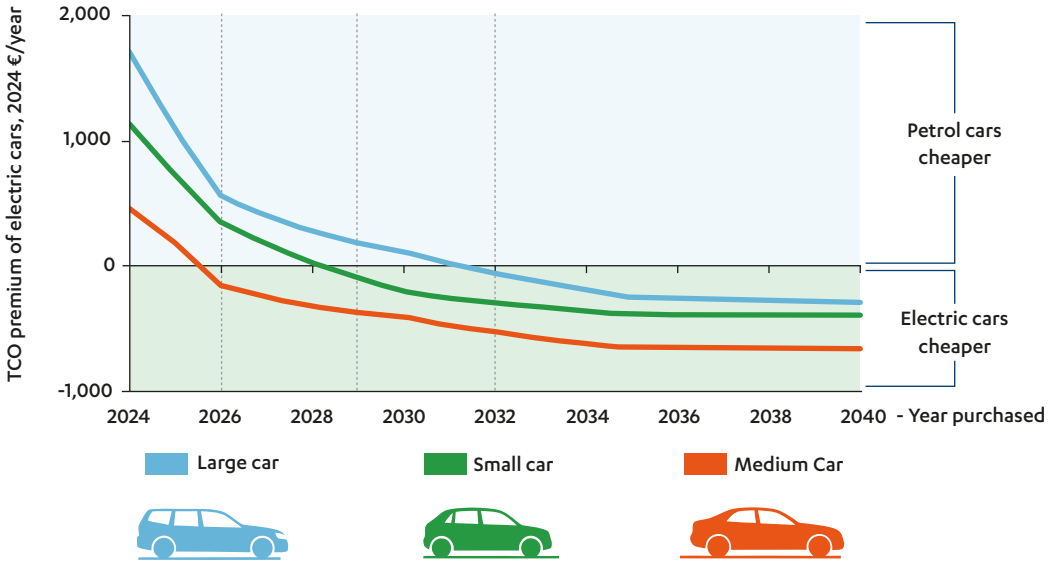


Figure 1: Annual total cost of ownership premium (over four years) of a new electric car compared to a new petrol car for small, medium, and large cars based 15,000 KM annual mileage. Taxes, maintenance, insurance and subsidies not included.

The TCO advantage of electric cars is most pronounced for small and medium cars. Therefore, encouraging the sales of new electric cars in these segments would achieve cost savings for consumers quickest.

More importantly, our study shows that any new electric vehicle sold today will bring financial benefits to its second and third owner. New electric cars registered now will deliver between €262 and €849/year savings for their future second and third owners compared to an equivalent petrol car.

This is a crucial element, as most consumers buy second-hand.

1 The TCO calculations performed in this report are based on an "EU average" country, meaning that the inputs used are (where possible) an EU average rather than from a specific country. This analysis includes vehicle purchase and financing costs, fuel/electricity and the cost of home chargers, but does not account for country-specific costs such as subsidies, taxes, insurance, or maintenance costs.

Cost of ownership of **used** electric and petrol cars first registered in 2024 (second owners purchase in 2028, third owners in 2033)

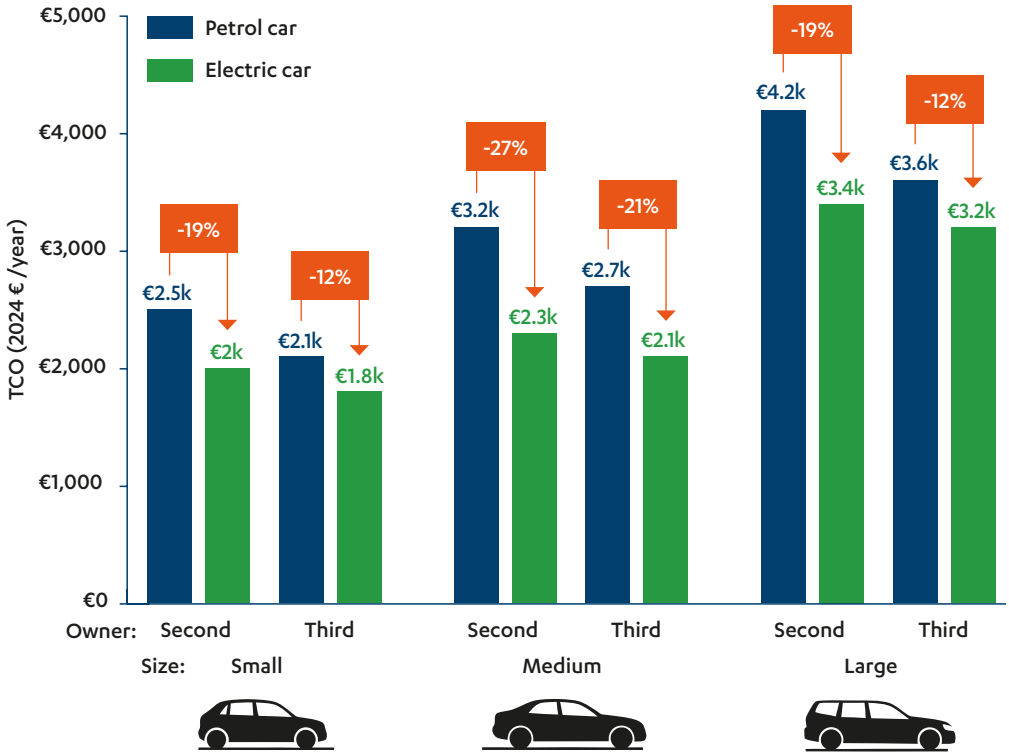
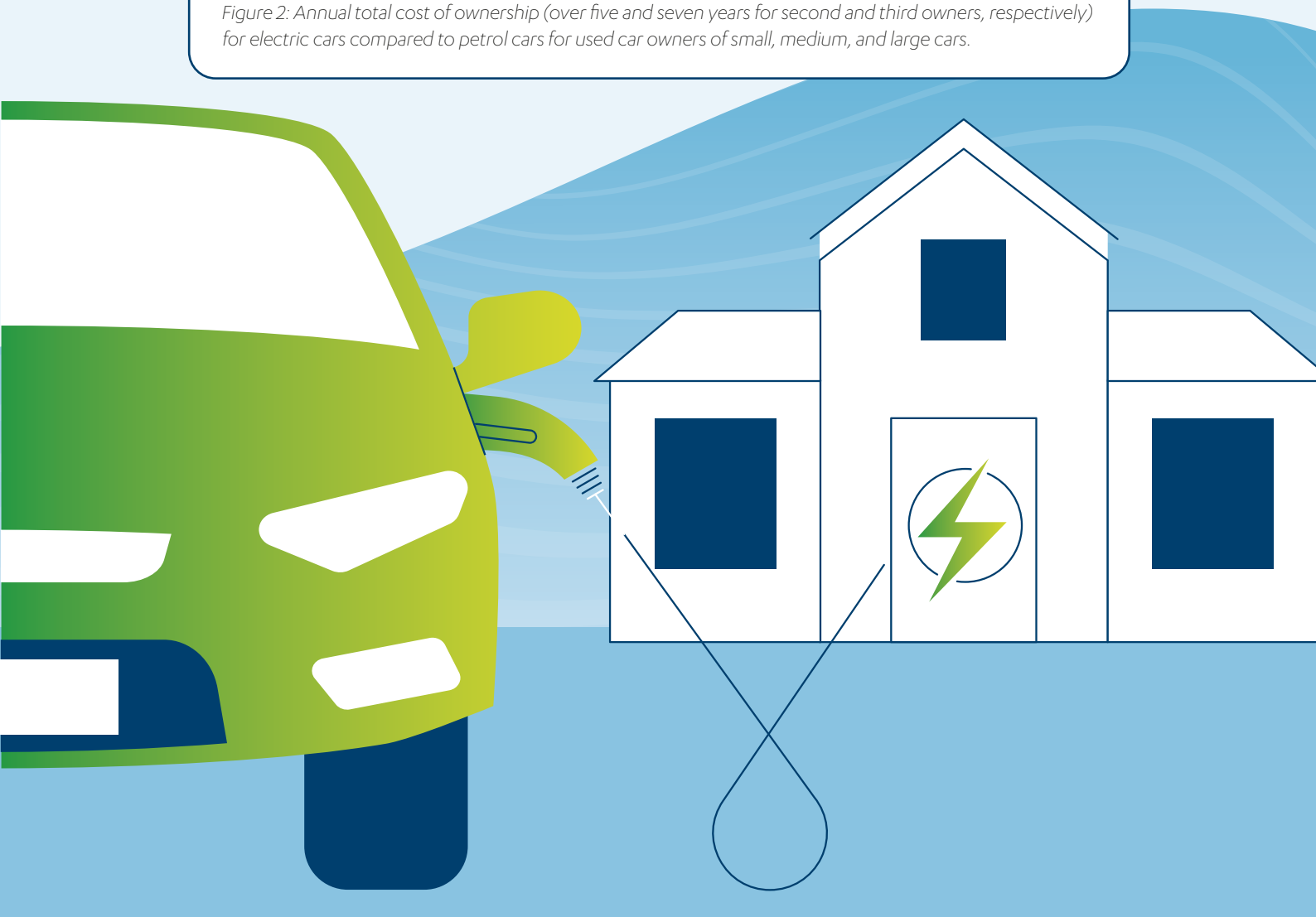


Figure 2: Annual total cost of ownership (over five and seven years for second and third owners, respectively) for electric cars compared to petrol cars for used car owners of small, medium, and large cars.



2. Important findings

While the "TCO parity" is slightly delayed compared to our previous study, the trend remains clear: electric vehicles are to be the best financial choice for consumers' individual mobility. Supportive policies at national level (subsidies, social leasing, tax breaks) are already giving a clear TCO advantage to electric vehicles to consumers in these countries.

Owner	This study	2021 study
First	2026	2023
Second	Already cheaper	Already cheaper
Third	Already cheaper	Already cheaper

Table 1: Year of price parity of a medium BEV with petrol ICE for each owner, comparison between this study and previous study (2021).

The arrival of more affordable, smaller electric cars (many of them not yet considered in our study) will only reinforce this trend and drive down TCO costs for several user groups should they want to buy new: urban/suburban citizens, pensioners, or families switching (one of) their cars to an electric one.

Our study also acknowledges the uncertainties[2] around the residual value of electric cars. Current resale values show that used car buyers enjoy cheaper BEVs. However, this can be a cause for concern for first buyers (individual consumers or companies) and therefore affect the supply of BEVs on the second-hand market.

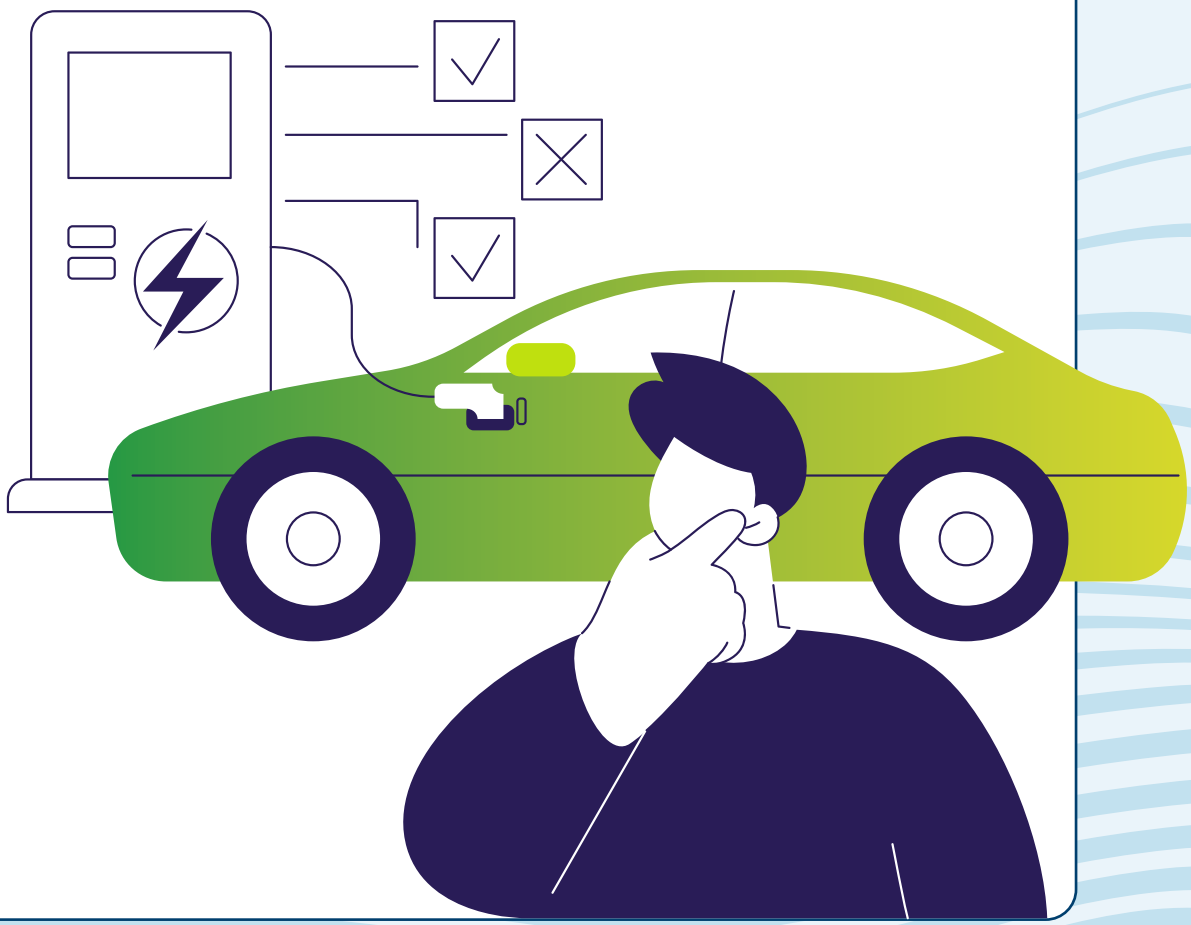
This paradox is likely to change with new car models arriving on the market, matching production costs with conventional cars and greater certainty about BEV technology and its capacity (range, charging, etc.) compared to recent years of rapid development..

2 The recent increase in second-hand value has been less pronounced for BEVs, with the residual value of BEVs staying more stable over this period. Hence, the gap between petrol ICE and BEV has increased slightly over this time, from 15 percentage points (pp) in 2021 to 17 percentage points in 2024. Yet, this is still a volatile market, and the gap between petrol ICE and BEV residual values also varies by country, with a 20-percentage point difference seen in France compared to a 12-percentage point difference in Germany.

Policies providing lasting improvement to the TCO of electric cars can further support the supply of BEVs where it matters the most:

- A sound industrial strategy supporting the development of BEV-specific platforms and batteries. When comparing existing models, our study shows that electric vehicles based on dedicated platforms (the 'architecture' of a car) are more competitive than BEVs built around existing platforms for conventional cars

- Consumer-centric policies to increase trust in BEVs:
  1. Supported leasing schemes of small electric vehicles for lower-income groups
  2. Support for second-hand buyers via targeted incentives
  3. Better information about BEVs specifications at the point of purchase
  4. Certified battery 'State of Health' for second-hand electric cars
  5. Access to low-cost charging solutions and lower price at public charging stations



Charging

Charging is indeed a significant aspect of BEV affordability. Having access to office or home charging largely increases the value proposition of a BEV from a TCO perspective. On the contrary, for those consumers relying exclusively on public charging, a 'worst case scenario' shows that TCO parity between BEVs and petrol cars can be delayed by six years.

TCO premium of BEV compared to petrol ICE in baseline and public charging only scenarios

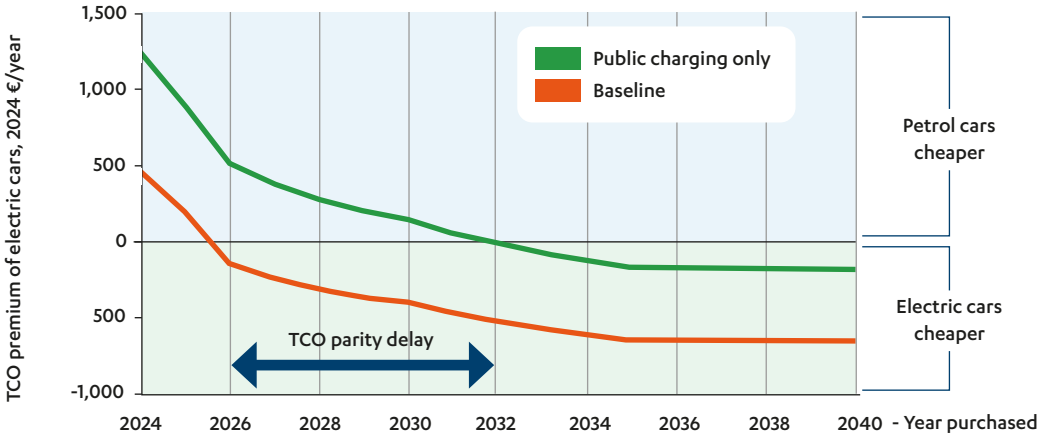


Figure 3: Illustration of the delay in total cost of ownership parity due to consumers only having access to public charging for medium-sized cars.

This is an important aspect to consider, as used car buyers (the majority of consumers buying a car) are more likely to be affected by higher public charging costs because they rely more heavily on public charging. Support policies should therefore focus on:

- Facilitating access to home, office or destination charging
- Allowing transparent pricing and easy payment methods
- Increasing competition at public charging stations (with better design of public tenders for local charge point installation)
- Ensuring access to dynamic tariffs at public charging stations
- Setting up schemes to reduce the cost of charging for those without a private charger, such as preferential tariffs for local residents

3. Keeping the momentum going for electric cars and avoid distraction

BEUC's study shows that the trajectory aiming for a 100% CO2 emission reduction at tailpipe by 2035 is a consumer-friendly policy, on top of bringing clear environmental benefits. Maintaining this trajectory is paramount for the industrial value chain but also to consolidate consumers' trust in BEVs. While supportive policies are necessary to strengthen consumer confidence in EVs, economic and social benefits are too great to question to change the recently agreed course.

This also means that lawmakers should stay away from distracting and costly solutions, such as e-fuels. Our study shows once again that e-fuels will never be able to compete with BEVs on purely financial terms. On top of the higher cost of using e-fuels, there are also other considerations which will make e-fuels an impractical solution for consumers, manufacturers and policy makers.

Consumers

For consumers, in addition to the higher prices, the low predicted volume of supply of e-fuels for road transport means the number of fuelling stations will be small, limiting consumers' autonomy and range.

Manufacturers

For manufacturers, these challenges include the likely requirement for OEMs to develop and commercialise technology to chemically distinguish between fossil fuels and e-fuels (which is currently very challenging to do given their similarity), which will increase the cost of the car.

Policymakers

For policymakers, the six- to nine-fold increase in renewable energy demand to produce e-fuels to power a car compared to directly powering an electric car will divert this renewable energy away from reducing emissions in other sectors, such as power generation, industry or housing.

The additional cost of running a car on e-fuels vs. conventional petrol and an electric car for a medium vehicle first registered in 2035 (purchased by second owner in 2039 and third owner in 2044)

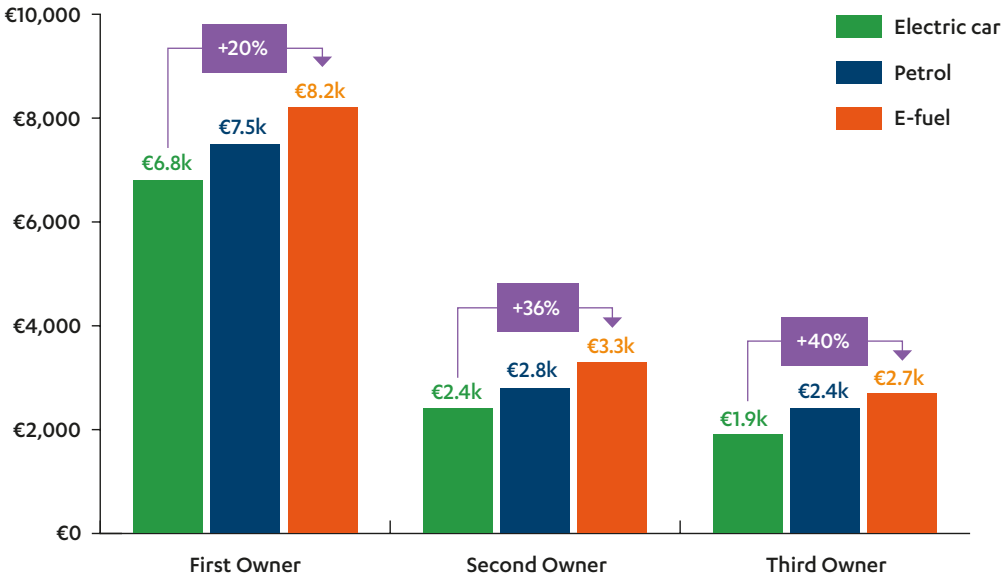


Figure 4: Additional cost of running a medium car e-fuels compared against petrol and an electric car, for a car first registered in 2035.

4. Recommendations

2025 is a turning point for electric mobility. The European Union and Member States have the legislative tools in place to support the momentum. The implementation of the 'Automotive Action Plan' adopted in March 2025 offers the possibility to revise some of these tools:

Maintain 2030 and 2035 CO2 targets	»	CO2 standards for cars and vans
Facilitate access to affordable and accessible charging solutions	»	Charging Regulations (AFIR and EPBD)
Increase consumer confidence in BEVs	»	Car Labelling Directive
Support for lower-income groups and second-hand buyers	»	Social Climate Plans

5. What consumers say about their experience with an electric car

Spain

"I don't use public chargers, but yes, they're expensive. It's cheap if you can charge at home."

"You can enter in all the streets of Madrid without problems. You can park for free in zones where you have to pay when you park in the street parking places."

"Sometimes the use of the app is not easy. There should be an easier way to pay."

Slovenia

"Wherever we went 11 years ago, there were no charging stations or it didn't work. "Pure shock." Today, these problems are no longer there or are rarer and easier to solve, to which their car also contributes as it has a longer range than the first."

"The purchase price of an electric car is still high. But for whoever drives regularly by car it is definitely worth it after three or four years. Whoever drives to work and can charge at home, then for me [buying an electric car] is the right thing to do."

France

L. A. sold her Seat Ibiza for €6,000 and took advantage of the €1,000 environmental bonus for buying a second-hand model. In the end, the little German car cost 'only' €4,000. It may not be the car of her dreams, but after 18,000 km she has no regrets about her choice. The electric car saves her around €150 a month, not including the less expensive servicing that she no longer has to carry out as often as with her internal combustion mode.

M.-L. also benefits from lower running costs, particularly when it comes to recharging. These are generally carried out at home, via a charging point, the installation cost of which is covered up to 80% by the manufacturer. However, things get complicated when she has to recharge at a public charging point: M.-L. also benefits from lower running costs, particularly when it comes to recharging. These are generally carried out at home, via a charging point, the installation cost of which is covered up to 80% by the manufacturer. However, things get complicated when she has to recharge at a public charging point:

"Too complicated every time. Different charging method. No easy explanation."

Poland

"I use the electric like a regular car – it doesn't restrict me in my daily functioning. It does, however, require different planning. For example: tomorrow I'm going to Siedlce, so I've already planned my charging today."

"I was in Italy with it, and I was delighted with the trip, really! It was a bit more difficult when we went to Croatia – the charging infrastructure there is quite poor."

"Out of curiosity, I keep a spreadsheet in Excel where I count all the benefits, such as free parking, free motorway promotions, free charging,... Over four years I have saved 46.000 zlotys, compared to the fuel prices of the day."

"It has happened that fast chargers along the road are, for example, every 200 km. As a result, I have to slow down en route, for example, in order to reach a charger which is located directly by the road, so that I don't have to turn off the motorway, for example."

Reference to BEUC members' publications

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