



# Analysis of the Probability of Meeting the Zero CO<sub>2</sub> Emissions Target for All New Passenger Vehicles by 2035 in EU Countries

Darko Pirtovšek<sup>1</sup>   
Sonja Boštjančič<sup>2</sup>

Received: December 3, 2023  
Accepted: February 1, 2024  
Published: May 28, 2024

## Keywords:

Passenger plug-in electric vehicles;  
Zero CO<sub>2</sub> emissions;  
EU countries;  
Shares;  
Analysis



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission.

**Abstract:** *In this paper, the authors undertook an analysis of the likelihood that EU Member States will meet the commitments made by the European Parliament in adopting the »Fit for 55« strategy, which sets the target of making all new passenger cars and light commercial vehicles zero-emission by 2035. The analysis itself was based on the data obtained on the increase in the share of passenger plug in electric vehicles (PEVs) from individual EU countries over the last 5-year period 2017-2022. This data was then used to calculate the trends in the increase in the share of PEVs in each EU country up to 2035. The results of the analysis itself showed that the targets set by the European Parliament are too ambitious and unrealistic, with only 4 countries - Sweden, Denmark, Luxembourg and the Netherlands - expected to reach them. All other countries are more or less far from them.*

## 1. INTRODUCTION

Five years ago, one of the authors of this paper carried out a review and analysis of the number of plug in electric vehicles (PEVs) in the countries of the European Union (Pirtovšek, 2018, p. 356-366), based on the European Commission's 'White Paper', issued by the Commission in 2011, which envisaged a 60 % reduction in greenhouse gas emissions from transport by 2050, with one of the main measures to achieve this target being related to halving the use of 'conventional fuel' cars in urban transport by 2030 or by phasing out the use of such cars by 2050 (European Commission, 2011, pp. 9-10). The author's analysis at the time showed that, for the time and the number of plug in electric cars, they were far too optimistic and unrealistic.

In February this year (14/02/2023), the European Parliament adopted new measures as part of the 'Fit for 55' package to reduce CO<sub>2</sub> emissions. The new measures aim to make all new passenger cars and light commercial vehicles emission-free by 2035, with CO<sub>2</sub> emissions to be reduced by 100 % across the EU compared to 2021. The intermediate goal of emission reduction for 2030 is 55 % for passenger cars and 50 % for vans (European Parliament, 2023).

As five years have passed since the last analysis, as already mentioned, and also due to the latest measures adopted by the European Parliament, the authors of the paper were interested in knowing what progress has been made during this period regarding the share of plug in electric passenger cars in the countries of the European Union as well as how realistic are the goals set to make all new passenger cars emission-free in 2035. Our analysis was based on the data obtained on the share of plug in electric passenger cars in each EU country in 2022, the growth of these vehicles over the last 5-year period 2017-2022, and personal calculations of the upward trends until 2035.

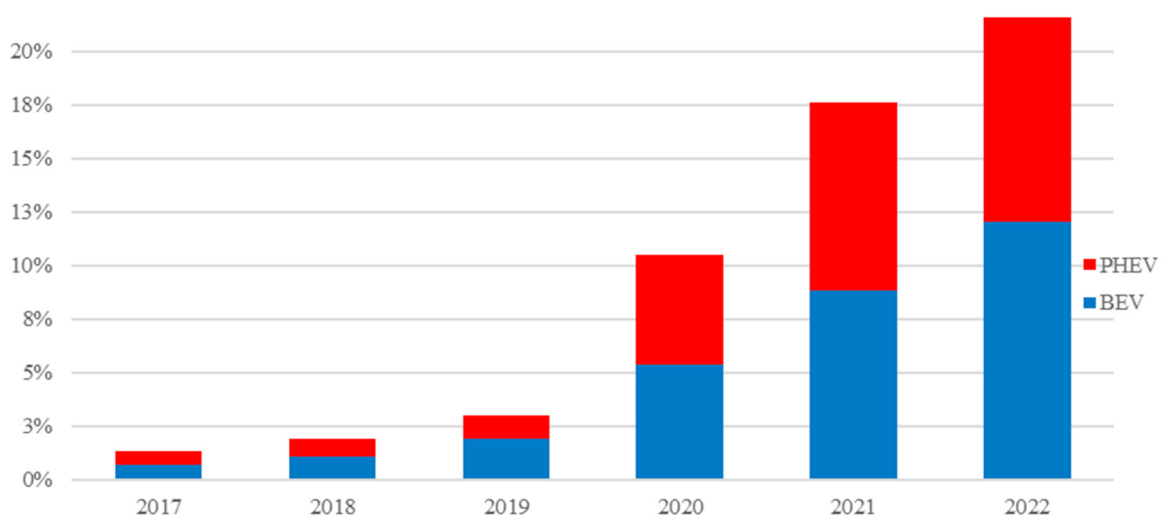
<sup>1</sup> Professional Education Centre Brežice, Higher Vocational College, Bizeljska cesta 45, 8250 Brežice, Slovenia

<sup>2</sup> School Center Šentjur, Higher vocational college, Cesta na kmetijsko šolo 9, 3230 Šentjur, Slovenia

## 2. OVERVIEW OF THE SHARE OF PASSENGER PLUG IN ELECTRIC VEHICLES IN EU COUNTRIES

The following is a presentation of the shares of passenger plug in electric vehicles in each EU country in 2022 and their growth trend in the period 2017-2022. First of all, it is first necessary to briefly clarify what is meant by plug in electric vehicles in general. Plug in electric vehicles (hereinafter referred to as PEVs) are all vehicles in which the battery to power the electric motor can be charged from an external grid, and are divided into pure battery electric vehicles (hereinafter referred to as BEVs) and plug in hybrid electric vehicles (hereinafter referred to as PHEVs) (Agencija za energiju, 2017, p. 2, 17).

At the start of the review, Figure 1 shows the total number of newly registered passenger PEVs in the EU for the period 2017–2022<sup>3</sup> (European Alternative Fuels Observatory (EAFO), 2023a).



**Figure 1.** The share of new passenger PEVs in the years 2017 - 2022 in the EU area

Source: EAFO, 2023a

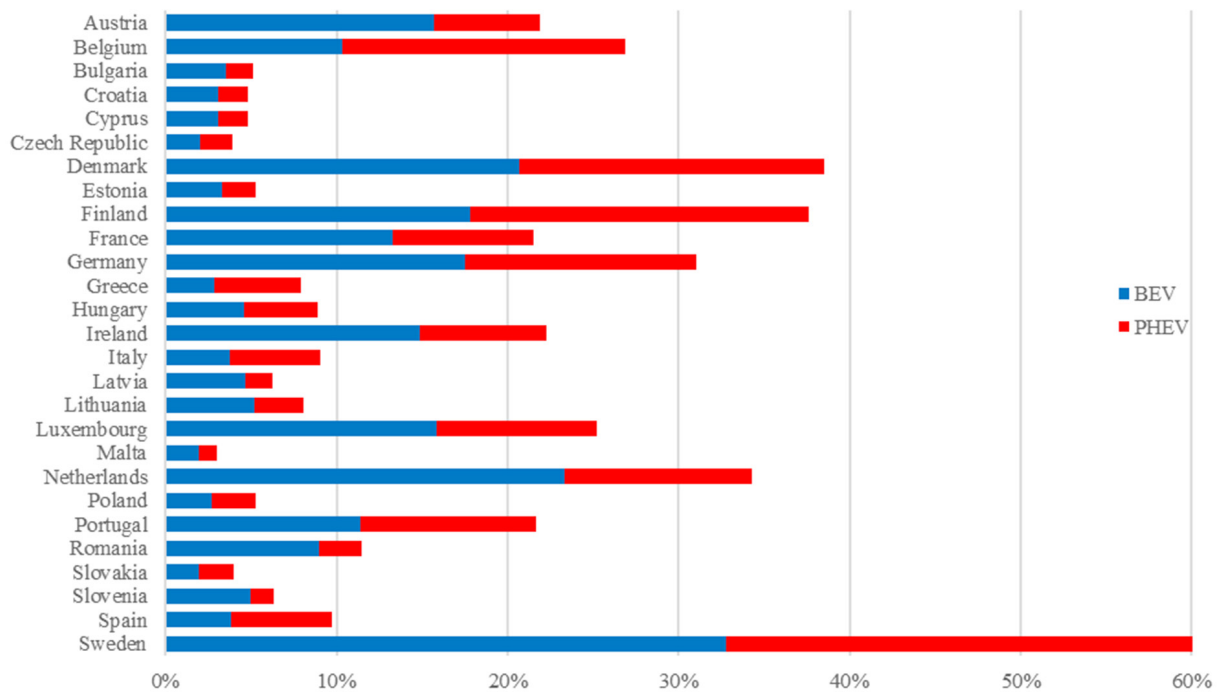
The graph itself shows that the share of the latter has increased steadily over the period, especially in the last three years, and is more than 16 times (16.21) higher in 2022 compared to 2017. The increase factor is very high, but it should be noted that the starting point itself was very low, as in 2017 the share of newly registered passenger PEVs was only 1.33 % of the total number of newly registered passenger cars in the EU area. In 2022, however, this share is well over 21 % (21.56 %), which in nominal terms would mean almost 2 million newly registered passenger PEVs. Thus, the total number of PEVs in the EU in 2022 would be about 5.8 million (EAFO, 2023a).

Of course, the shares of these newly registered vehicles in 2022 vary widely across EU Member States, as can be seen in Figure 2. By far the highest share of newly registered passenger PEVs was in Sweden, where it accounted for just over 60 % (60.87 %) <sup>4</sup> of all newly registered passenger vehicles. It is followed by Denmark (38.52 %) and Finland (37.59 %).

The lowest share of newly registered passenger PEVs was recorded in Slovakia (3.99 %), the Czech Republic (3.90 %) and Malta (2.99 %) (EAFO, 2023b).

<sup>3</sup> Data already excludes the UK (authors' note).

<sup>4</sup> The absolute record holder in Europe was Norway, with a share of just over 88 % in 2022 (88.58 %) (EAFO, 2023b).



**Figure 2.** The share of new passenger PEVs in 2022 by individual EU countries

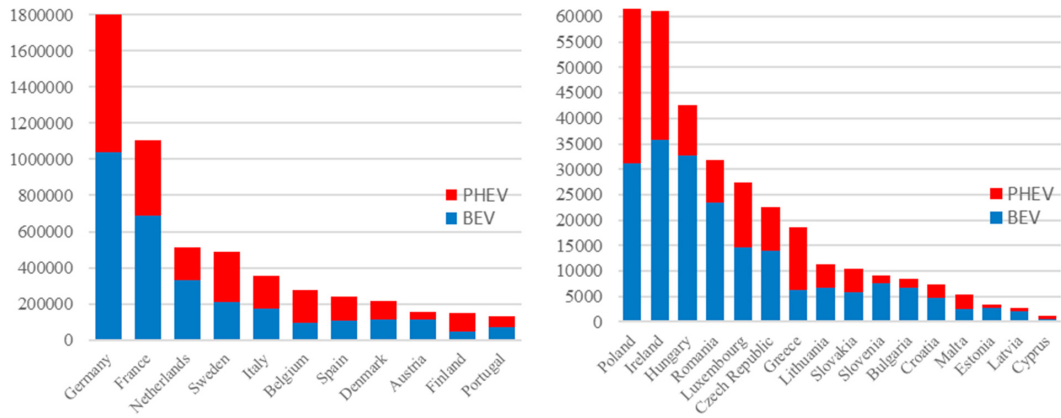
Source: EAFO, 2023b

The comparison of the shares of newly registered passenger PEVs in 2022 with 2017 shows that they have increased significantly in all EU countries. Croatia, for example, has an index of 9,660, which means that the share of newly registered passenger PEVs in relation to all newly registered passenger vehicles in 2022 has increased by about 96 times compared to 2017. Cyprus had the lowest index at 614 (approx. 6-fold increase). Although the calculated indices are quite high in all countries, they do not in themselves tell us much about the real state of the number of passenger PEVs in each EU country. A high index from a low starting point may not mean much, while a relatively low index from a high starting point may mean a very big leap for the better. Therefore, a much more realistic figure is the total number of all registered passenger PEVs in 2022 in individual EU countries (Figure 3), or their share per 100,000 inhabitants (Figure 4).

In nominal terms, Germany had the largest number of these vehicles, with almost 2 million (1,930,006), followed by France with just over a million of them (1,102,975) and the Netherlands, with just over half a million (515,242) in 2022. The lowest number of passenger PEVs was in Latvia (2,646) and Cyprus (1,220).

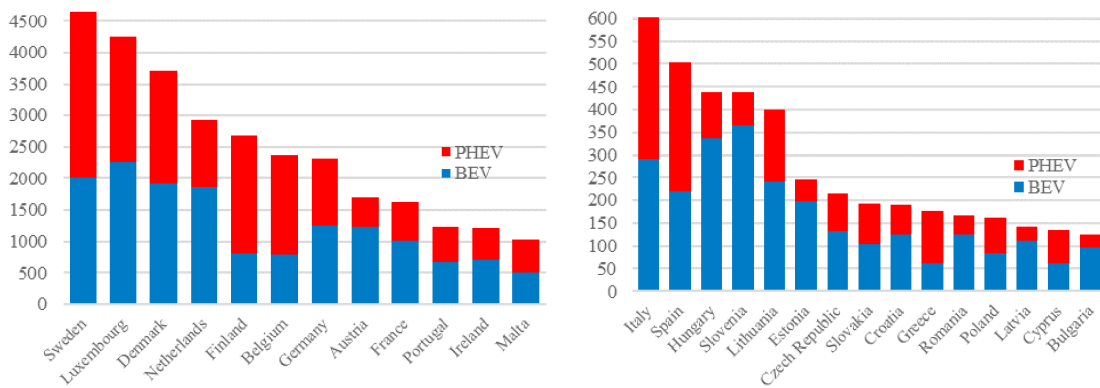
Since these data are also quite relative, they do not give us a true picture of how high the shares of passenger PEVs actually are in individual EU countries. Indeed, it is to be expected that countries with high populations will have the largest number of such vehicles, with Germany, which nominally has the largest number of passenger PEVs, also having the largest population, with a population of just over 83 million in 2022 (European Union, 2023).

This makes the data on which EU countries have the highest number of passenger PEVs in real terms much more credible. For this reason, the authors of this paper have calculated the number of passenger PEVs per 100,000 inhabitants in each country at the end of 2022, as shown in Figure 4.



**Figure 3.** Total number of passenger PEVs in 2022 by individual EU countries

Source: EAFO, 2023b



**Figure 4.** The number of passenger PEVs per 100,000 inhabitants in 2022 by individual EU countries

Source: EAFO, 2023b; European Union, 2023

The figure shows that Sweden has the highest number of these vehicles, with more than 4,600 (4,656)<sup>5</sup> per 100,000 inhabitants, followed by Luxembourg (4,254) and Denmark (3,705), with Cyprus (135) and Bulgaria (124) in the last two places. In the following, we will look at what all this data means for the European Union’s strategy to reduce CO<sub>2</sub> emissions from new passenger vehicles by 100 % by 2035.

### 3. PERFORMING THE ANALYSIS OF THE OBTAINED DATA FROM THE POINT OF VIEW OF IMPLEMENTING THE STRATEGY OF THE EUROPEAN UNION

As already mentioned, the EU’s strategy is to make all new passenger vehicles and light commercial vehicles zero-emission by 2035, with a 100 % reduction in CO<sub>2</sub> emissions across the EU compared to 2021. In the following, let’s take a look at the possibilities of individual EU countries for the realization of these plans. In the analysis itself<sup>6</sup>, the authors of the paper took as a starting point the previously presented data for 2022 in the individual EU countries. First, the number of total passenger cars (hereinafter referred to as TPCs) which are expected to be present in individual EU countries in 2035 was calculated. The calculation was based on the average growth of passenger cars over the period 2017-22 (Table 1).

<sup>5</sup> In Norway, there are approximately 12,770 per 100,000 inhabitants (Wikipedia, 2023).

<sup>6</sup> The calculations are the work of the authors.

**Table 1.** Calculation of average annual growth rate of TPCs and PEVs for a certain period

Country	Average growth rate of TPCs for the period 2017-22	Average growth rate of PEVs for the period 2023-35	Average growth rate of PEVs for the period 2017-22
Austria	3,00 %	36,01 %	53,97 %
Belgium	3,49 %	32,52 %	55,31 %
Bulgaria	2,68 %	61,87 %	147,21 %
Croatia	4,71 %	61,22 %	92,47 %
Cyprus	6,21%	73,33 %	48,14 %
Czech Republic	4,51 %	62,24 %	66,99 %
Denmark	4,57 %	28,47 %	87,23 %
Estonia	5,80 %	63,76 %	38,25 %
Finland	3,74 %	33,83 %	91,14 %
France	3,61 %	37,92 %	63,68 %
Germany	2,27 %	31,75 %	73,91 %
Greece	4,74 %	64,53 %	123,51 %
Hungary	5,89 %	51,86 %	90,15 %
Ireland	5,25 %	41,11 %	89,75 %
Italy	2,82 %	49,01 %	95,07%
Latvia	3,96 %	61,86 %	49,02%
Lithuania	4,97 %	54,64 %	123,75%
Luxembourg	3,96 %	29,76 %	67,54%
Malta	4,05 %	43,75 %	105,24%
Netherlands	3,51 %	29,98 %	35,11%
Poland	5,62 %	69,82 %	106,85%
Portugal	6,90 %	45,52 %	75,01%
Romania	7,73 %	65,86 %	116,34%
Slovakia	4,96 %	61,41 %	67,97%
Slovenia	3,05 %	50,77 %	55,23%
Spain	4,30 %	50,83 %	72,09%
Sweden	3,07 %	24,43 %	58,68%

Source: EAFO, 2023b; Own calculations

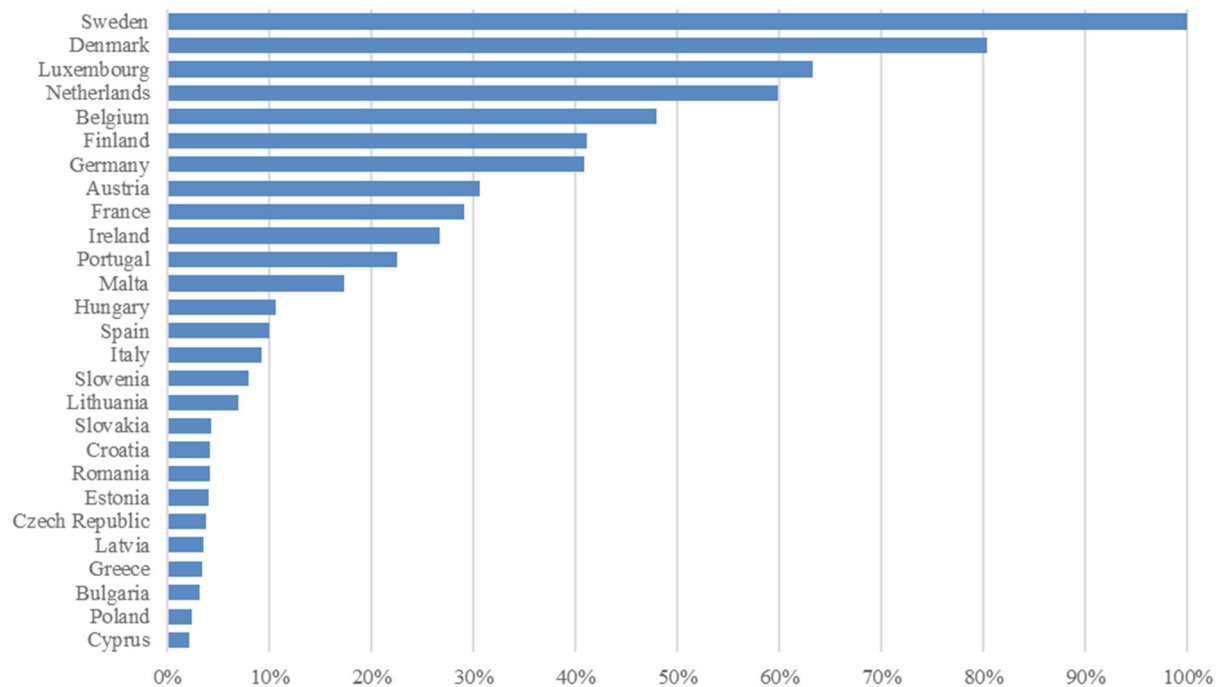
Thus, for example, a calculation for Sweden, which is the leader in the number of passenger PEVs per 100,000 inhabitants, shows that with the current annual average growth rate of passenger cars for the period 2017-2022, which amounts to 3.07 %, the number of TPCs in 2035 would be just over 8 million (8,349,839) (Figure 7). Since at the end of 2022, there were just under 0.5 million (486,700) total passenger PEVs in Sweden (EAFO, 2023b), this means that by 2035 the country would have to make up the entire difference, which amounts to approx. 7.9 million (7,863,139) vehicles. Based on this data, we calculated the average annual rate at which the sales of passenger PEVs must increase until 2035 in order to reach the set goal. The calculation<sup>7</sup> showed that the average annual growth rate for this period should be just approx. 24 % (24.43 %) <sup>8</sup>. The required average annual growth rates for passenger PEVs were calculated in the same way for the rest of the EU countries (Table 1). The obtained required annual growth rates were then compared with the annual growth rates experienced by EU countries in the period 2017-22 (Table 1).

From the comparisons themselves, it can be seen that the growth rates over the last 5-year period in most countries, except in three (Cyprus, Estonia and Latvia), have been higher than the calculated required growth rates until 2035. This sounds very good, however, it is necessary to draw attention once again to the fact that the differences between the starting points of the number of passenger PEVs per country in the last 5-year period under consideration are very large, as already explained in the previous section.

<sup>7</sup> The basis for the calculation was an interest-rate calculation.

<sup>8</sup> For Norway it is 14.67 % (authors' note).

Figure 5 shows the realistic ratios of the shares of passenger PEVs in individual EU countries compared to Sweden, which has the highest share of these vehicles (in real terms) at just under 10 % (9.68 %) in 2022 (EAFO, 2023b). The differences between the ratios of the individual countries compared to Sweden are very large.



**Figure 5.** The ratio of the relative shares of passenger PEVs in 2022 in EU countries versus Sweden

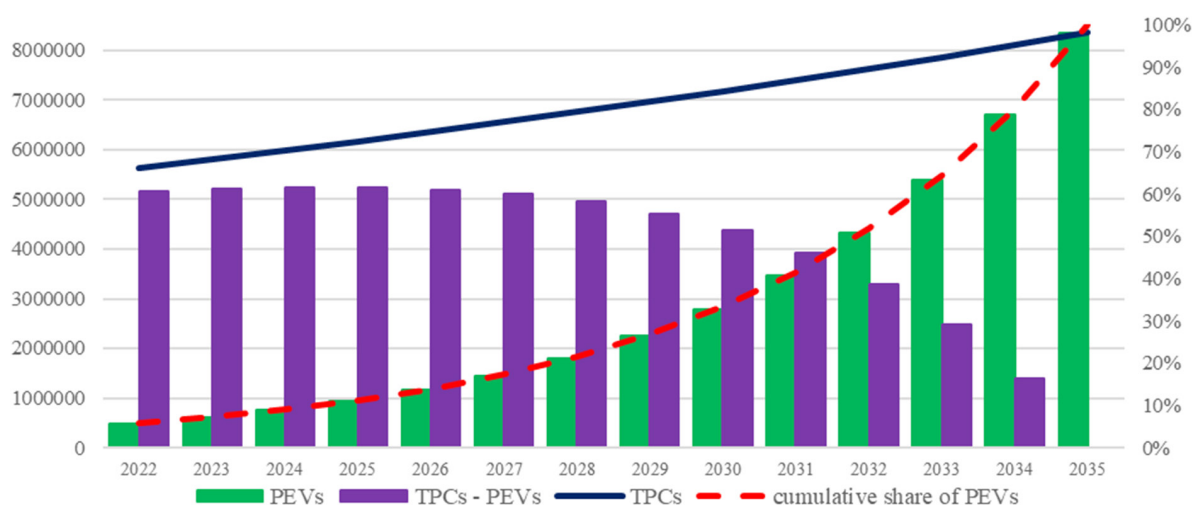
**Source:** EAFO, 2023b; Own calculations

Even Denmark, which ranks second in terms of the share of passenger PEVs, already has almost 20 % (19.63 %) fewer of these compared to Sweden, while Luxembourg, in third place, has almost 37 % (36.78 %) fewer. However, if we look at the bottom part of the EU countries, Poland, in second to last place, has only (in real terms) a good 2 % (2.38 %) of Sweden's share of passenger PEVs, which is also the case, similarly, for last-placed Cyprus (2.07 %).

In our analysis below, the authors show how our calculated (required) average annual growth rates up to 2035 for individual EU countries (Table 1) would affect the actual rate of increase in the share of passenger plug-in electric ca PEVs in the EU. For this purpose, we have chosen 3 countries that differ widely in terms of their shares of passenger PEVs. From the top half of the countries in terms of share, we chose Sweden and Germany, and from the bottom half, Cyprus.

As already mentioned, Sweden is the leading country in the EU both in terms of the real share of all passenger PEVs in 2022<sup>9</sup>, which is just under 10 % (9.68 %), and in terms of the number of passenger PEVs per 100,000 inhabitants (4,656). Figure 6 shows a graph presenting how the values of the individual items related to the number of passenger vehicles are projected to change in Sweden by 2035. We calculated them based on the obtained results of the average growth of TPCs, as well as all passenger PEVs in the period 2017-22. The main item in the graph is the cumulative share of all passenger PEVs, which shows how this needs to increase over the period 2023-2035 in order for Sweden to have a 100 % share of all newly registered passenger vehicles in passenger PEVs in 2035.

<sup>9</sup> In Norway, the share is 22.90 %.



**Figure 6.** The change of TPCs, PEVs and cumulative share of PEVs by 2035 in Sweden  
**Source:** EAFO, 2023b; Own calculations; Own processing

To achieve this target, we have previously calculated for Sweden that the average annual growth rate of passenger PEVs for the period 2023-2035 should be 24.43 % (Table 1). Looking at the curve of the cumulative share of these vehicles up to 2035, we see that it has been rising rather steadily, except for the last 3 years, which is also understandable, as in the last years of the period under consideration the growth rate is linked to an increasingly higher initial annual base. This in turn leads to a significant increase in the total cumulative share of passenger PEVs. At the end of 2032, Sweden would exceed the 50 % (51.86 %) share of total passenger PEVs required in 2035<sup>10</sup>. The remaining share would have to be covered in the next three years. This sounds like a lot, but it is also important to take into account that the baseline number of passenger PEVs at the end of 2032 is already quite high (more than 4.3 million). It is also important to note that the calculated (required) average annual growth rate for passenger PEVs until 2035 (24.43 %) is more than 50 % lower than the average annual rate for the period 2017-2022 (58.68 %), which is also due to the rather good initial share of all passenger PEVs at the end of 2022 (9.68 %), especially compared to the rest of the EU countries (Figure 5). Therefore, our opinion is that if Sweden at least approximately maintains the current rate of increase in the annual share of passenger PEVs over the next few years, it will reach the target of making all new passenger cars zero-emission in 2035.

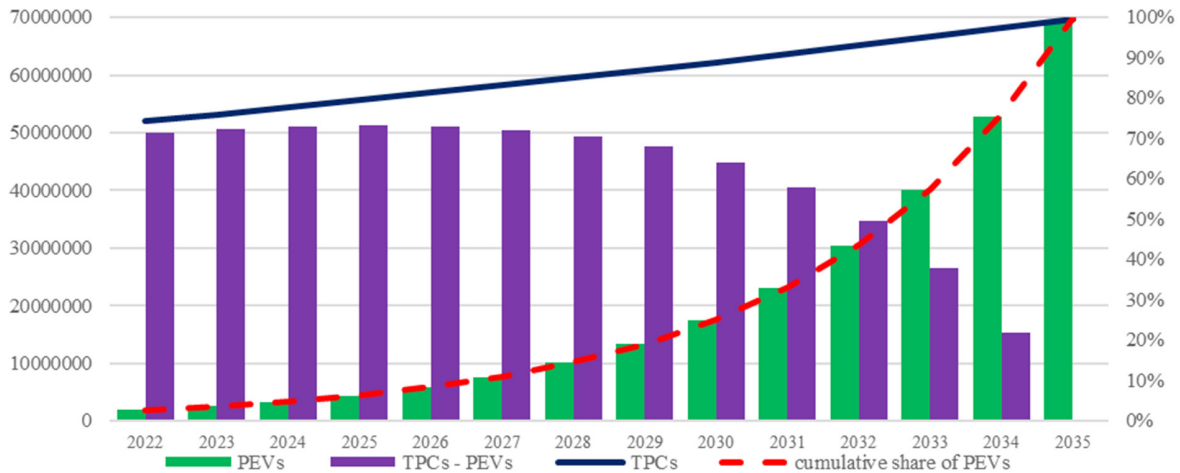
The next country analyzed is Germany, which nominally has the largest number of passenger PEVs among EU countries (just under 2 million). The graph in Figure 7 shows how the values of the individual items related to the number of passenger cars are expected to change in Germany by 2035.

If we compare the curves of the cumulative shares of passenger PEVs of Germany and Sweden, we see that the German curve starts to climb steeply much earlier. Namely, it is not until sometime in the first half of 2033 that Germany exceeds the 50 % share of all passenger PEVs required in 2035. The difference should therefore be covered in the last two and a half years. If we compare this with Sweden, the difference is only half a year, but the problem with Germany is that it has a nominally very high number of new passenger PEVs required, which is around 30 million<sup>11</sup>. This is mainly because the initial share of total passenger PEVs at the end of 2022

<sup>10</sup> The nominal share of all passenger plug-in electric vehicles in 2032 would be 56.79 % (authors' note).

<sup>11</sup> By 2033, Germany would have a total of just over 40 million passenger PEVs (authors' note).

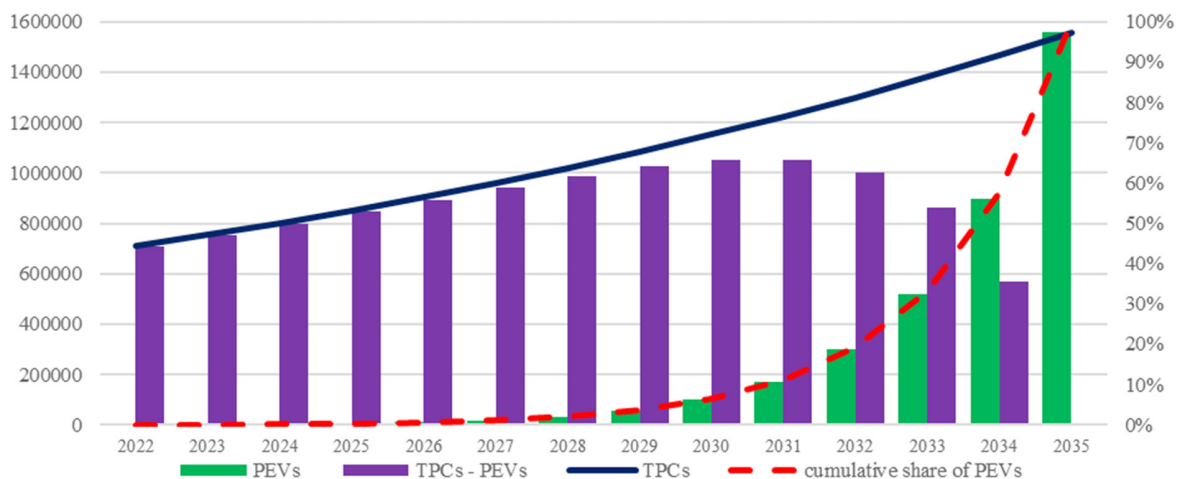
(3.95 %) is much lower in real terms than in Sweden (by almost 60 %), and consequently, this is also reflected in the required (calculated) annual growth rate for passenger PEVs up to 2035, which is almost 32 % (31.75 %). Therefore, the authors of the paper believe that Germany will not reach the required target by 2035. This claim is further supported by the fact that in 2022 the German government adopted, as it said itself, a very ambitious plan to have 15 million passenger PEVs on the road by 2030 (Partsch, 2022), which is less than our calculation, which suggests that Germany should have over 17.5 million passenger PEVs by that year.



**Figure 7.** The change of TPCs, PEVs and cumulative share of PEVs by 2035 in Germany

Source: EAFO, 2023b; Own calculations; Own processing

The last country to be analyzed in more detail was Cyprus, which ranks last among the EU countries in terms of the real share of all passenger PEVs in relation to TPCs in 2022 (0.20 %) and is shown in Figure 8. The cumulative share curve for passenger PEVs in Cyprus is almost flat until 2030. It may be worth pointing out that the nominal number of passenger PEVs by that year, with the required (calculated) average annual growth rate for the period 2023-2035, which is already more than 73 % (73.33 %), would only amount to just over 6 % (e.g. Sweden 33, 50 %) of the total number of such vehicles in 2035.



**Figure 8.** The change of TPCs, PEVs and cumulative share of PEVs by 2035 in Cyprus

Source: EAFO, 2023b; Own calculations; Own processing

This means that Cyprus would have to make up the difference, which would amount to just under 94 % over the last five years, which is, indeed, totally unrealistic and utopian.



The results of our analyses have shown us that we can only look for potential countries to meet the EU targets if they rank higher than Germany in terms of the real share of passenger PEVs. Among the five countries (Sweden has already been analysed), Denmark, Luxembourg, the Netherlands, Belgium and Finland, only Denmark, Luxembourg and the Netherlands (according to the authors) could still meet the targets for zero CO<sub>2</sub> emissions from all passenger cars by 2035, according to the results of the analysis.

Denmark would reach the 50 % share of all passenger PEVs required in 2035 in the first quarter of 2033, with a required (calculated) average annual growth rate of passenger PEVs for the period 2023-2035 of just over 28 % (28.47 %). Luxembourg and the Netherlands, on the other hand, with a required (calculated) average annual growth rate of passenger PEVs for the period 2023-2035 of just under 30 %, would reach a 50 % share of the total passenger PEVs required in 2035 in the first third of 2033. This would give all three countries, even on the basis of the baseline data, still (possibly) enough time to fulfill the set criteria in the remaining period of just over two and a half years.

It can be concluded that the European Parliament's new »Fit for 55« strategy has again too recklessly made certain commitments for the future which, with (conditionally) few exceptions, the EU countries will simply not be able to implement. And if we look at the intermediate goal, which is a 55 % reduction in CO<sub>2</sub> emissions from passenger cars by 2030, we see that this target is simply unachievable according to preliminary calculations, since Sweden, for example, as the EU's leading country, would reach it by the beginning of 2033. Even if we take into account the average annual growth rates of passenger PEVs for the period 2017-2022, which are very high for all EU countries (Table 1) and completely unrealistic for the future, there are still 10 EU countries<sup>12</sup> that would not meet the intermediate target.

Bottom line, the authors of the paper believe that, due to the goals being too high and too ambitious, it will be necessary to review the trend toward the implementation of the »Fit for 55« strategy in a few years (perhaps in 2025) and to adjust the expected targets more realistically to the situation at that time. This is also suggested by the fact that the current share of newly registered passenger PEVs in the EU in the first quarter of 2023 is down<sup>13</sup> by about 2 % points (10 %) compared to the previous year (EAFO, 2023c), even though the nominal number of such vehicles increased by more than 15 % in the first quarter of 2023 compared to the same period in 2022 (VIRTA, 2023). The problem is that the total number of all newly registered passenger cars has also increased significantly, rising by almost 18 % (17.9 %) in the first quarter of 2023 compared to the same period in the previous year. This is much higher than the average annual growth of all newly registered passenger cars for the five years 2017-2022, which is just under 4 % (3.78 %).

#### 4. CONCLUSION

In this paper, the authors dealt with the ability of EU countries to achieve CO<sub>2</sub> zero-emission in all new passenger cars by 2035. For the analysis itself, we relied on the data obtained on the increase in the share of passenger PEVs per EU country for the last 5-year period 2017-2022, based on which we then simulated (calculated) the required annual growth rate of passenger

<sup>12</sup> Authors' calculation.

<sup>13</sup> Already in 2022, the growth in the share of these vehicles was significantly lower compared to 2021 (International Energy Agency, 2023, p. 17-18).

PEVs by 2035 for individual EU country. The calculated (required) annual growth rates of passenger PEVs were then analyzed in detail.

The results of the analysis show that the European Parliament's targets for zero CO<sub>2</sub> emissions in all new passenger cars by 2035 are not feasible, far too ambitious and unrealistic. According to our calculations, only 4 countries (Sweden, Denmark, Luxembourg and the Netherlands) would achieve the targets and, even for these countries, everything should be without major changes (thinking mainly downwards) in the growth rates of the share of passenger PEVs by 2035.

We therefore believe that the European Parliament will soon, within a few years, have to re-examine the dynamics of the »Fit for 55« strategy and adapt it to the situation at that time. It should also be emphasized that the authors of this paper have dealt only with the dynamics of the growth in the share of passenger PEVs, which is only one of the variables that affect the achievement of the targets. There are others, such as the number of electric vehicle recharging stations as well as the capacity of the electricity grid in individual EU countries, which will have a major impact on the growth rate of electric vehicles in general in the near future.

Although the targets of zero CO<sub>2</sub> emissions for all new passenger cars by 2035 will not be met, it is nevertheless important that the number of electric vehicles of all types is increasing significantly, which has a very positive impact on reducing greenhouse gas emissions now and will continue to do so in the future.

## References

- Agencija za energijo. (2017). *Smernice za razvoj elektromobilnosti v Sloveniji*. Maribor, p. 2, 17. Retrieved March 26, 2023, from <https://www.agen-rs.si/documents/10926/20705/Smernice-za-razvoj-elektromobilnosti-v-Sloveniji/5e9d3029-f691-4a11-8952-2f07c7066a85>
- European Alternative Fuels Observatory (EAFO). (2023a). *European Union, Vehicles and fleet*. Retrieved March 12, 2023, from <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/european-union-eu27/vehicles-and-fleet>
- European Alternative Fuels Observatory (EAFO). (2023b). *European Union, Individual countries*. (2023). Retrieved March 13, 2023, from <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road>
- European Alternative Fuels Observatory (EAFO). (2023c). *European Union, Summary*. Retrieved April 27, 2023, from <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/european-union-eu27>
- European Commission. (2011). *White paper*. Brussels, p. 9-10. Retrieved March 24, 2023, from <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144>
- European Parliament. (2023). *Fit for 55: zero CO<sub>2</sub> emissions for new cars and vans in 2035*. Retrieved March 24, 2023, from <https://www.europarl.europa.eu/news/en/press-room/20230210IPR74715/fit-for-55-zero-co2-emissions-for-new-cars-and-vans-in-2035>
- European Union. (2023). *Facts and figures on life in the European Union*. Retrieved March 17, 2023, from: [https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu\\_en](https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en)
- International Energy Agency. (2023). *Global EV Outlook*. Paris, p. 17-18. Retrieved April 27, 2023, from <https://iea.blob.core.windows.net/assets/dacf14d2-eabc-498a-8263-9f97fd-5dc327/GEVO2023.pdf>

- Partsch, E. (2022). *Europe's Transition to Electric Vehicles: How It's Going, and What Lies Ahead*. Retrieved April 3, 2023, from <https://impakter.com/europes-transition-to-electric-vehicles-hows-it-going/>
- Pirtovšek, D. (2018). *Analysis of plug in electrical vehicles shares in EU countries and of their prices in comparison to purchasing capacities in individual EU member states*, Ljubljana, Second international scientific conference on economics and management - Eman 2018, p. 356-366.
- VIRTA. (2023). *The global electric vehicle market overview in 2023: statistics & forecasts*. Retrieved April 27, 2023, from: [https://www.virta.global/en/global-electric-vehicle-market?\\_\\_hstc=51530422.52cfcca211865f528d901f21434a9da0.1686581901144.1686588045604.1686654063930.3&\\_\\_hssc=51530422.23.1686654063930&\\_\\_hsfp=3748233325&hsutk=52cfcca211865f528d901f21434a9da0&contentType=standard-page#three](https://www.virta.global/en/global-electric-vehicle-market?__hstc=51530422.52cfcca211865f528d901f21434a9da0.1686581901144.1686588045604.1686654063930.3&__hssc=51530422.23.1686654063930&__hsfp=3748233325&hsutk=52cfcca211865f528d901f21434a9da0&contentType=standard-page#three)
- Wikipedia. (2023). *Norway*. Retrieved March 17, 2023, from <https://en.wikipedia.org/wiki/Norway>

