



# The corporate cars problem and what the EU can do about it

Modelling the impact of the Greening corporate fleets initiative

May 2023

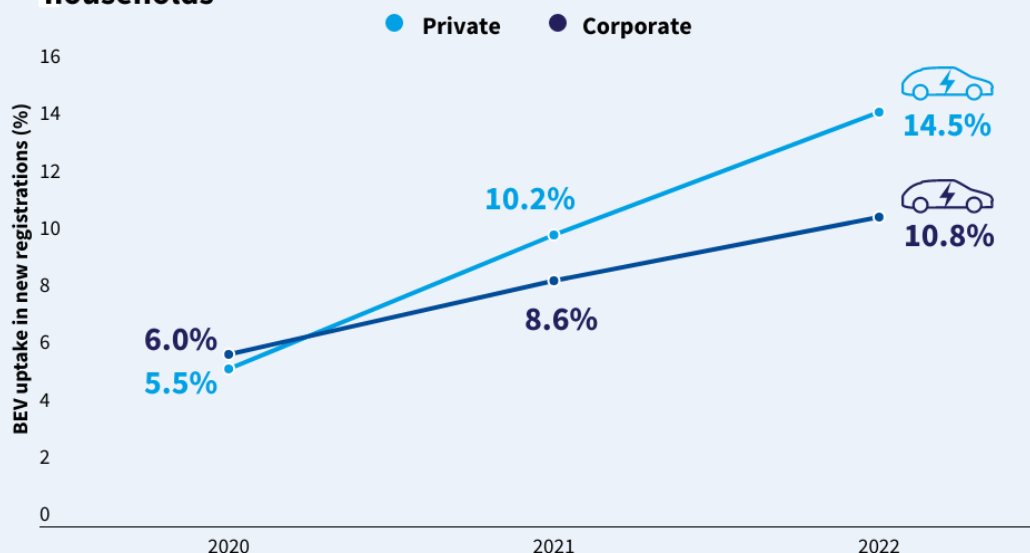
## Summary

**Corporate fleets are Europe's biggest car market. They account for 58% of new sales and - given their high mileage - are responsible for 74% of emissions of new cars.** Electrifying corporate cars would rapidly accelerate electrification and transport emission savings in Europe. The latter is crucial given that the EU and Member States have recently increased the ambition of the Effort Sharing Regulation (ESR), setting binding 2030 targets for road transport, heating, agriculture, small industrial installations and waste.

**But the EU is currently missing out on this big opportunity. The EU's largest automotive market is lagging behind on electrification.** In 2022, 10.8% of new corporate cars were battery electric vehicles (BEV) compared to 14.5% for the private market, and this gap is only growing.



### BEV uptake in the corporate channel is lagging behind private households



Source: Dataforce (2023). New passenger car registrations 2022.

**The upcoming *Greening corporate fleets initiative* - announced by the European Commission (EC) in its 2023 Work Programme - is the opportunity for the EU to reverse this trend.**

Looking at five different policy scenarios, this report analyses the impact EU action on fleets can have. Our analysis shows that the benefits are multiple. **Setting binding targets for all new corporate cars to be zero-emission by 2030 (the most ambitious policy scenario) would deliver the following positive effects, alongside existing car CO<sub>2</sub> standards:**



#### CO<sub>2</sub> emission cuts

Emissions of cars are reduced by an additional 30 MtCO<sub>2</sub>e for the year 2030. The fleet targets would as such reduce the ESR emissions gap already by 37%, showing that **EU action on fleets is crucial for the EU and Member States to meet their increased ESR targets.**



#### Accelerate the uptake of zero-emission cars

**11 million additional zero-emission vehicles (ZEV) will be on our roads by 2030, replacing polluting diesel and petrol cars.** A binding EU fleet target will guarantee continuous growing demand for ZEVs and as such support European OEMs in their transition to become electric carmakers and the goals of the EU Green industrial plan to bring e-car and battery production to Europe.



#### Faster supply of affordable second-hand zero-emission cars

Today almost 8 out of 10 EU citizens buy their car second-hand. Given their much shorter ownership period (three to four years), electrifying corporate cars can rapidly accelerate the supply of affordable second-hand ZEVs. **A binding EU fleet target will bring 12.5 million additional second-hand ZEVs on the market by 2035.**



#### Oil import savings

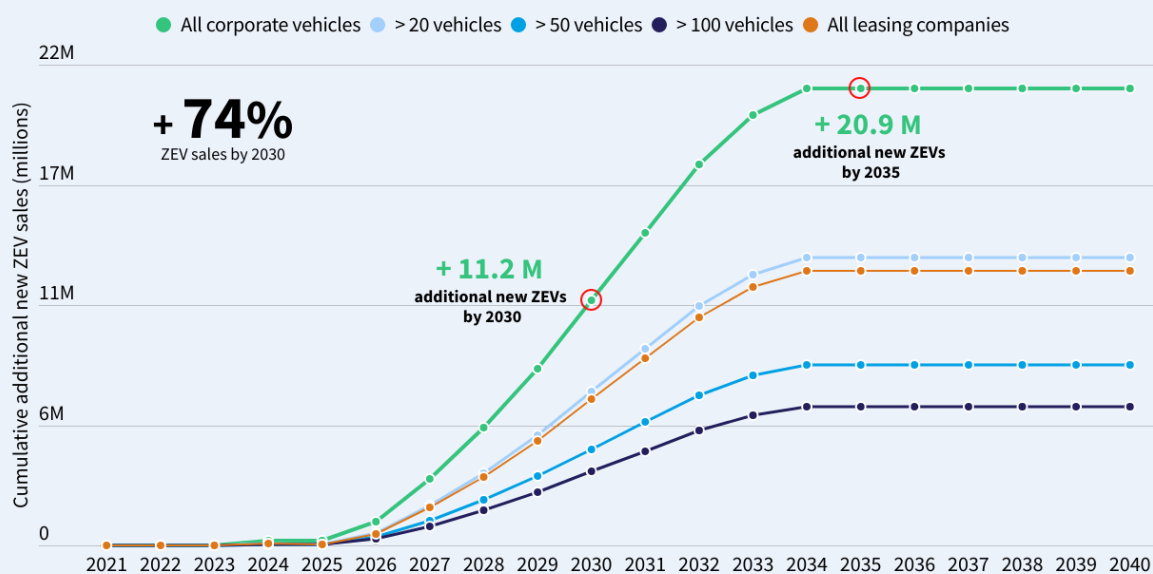
**Oil imports are further reduced by an additional 208 million barrels of oil by 2030 and 1,029 million by 2040.** EU fleet targets will therefore bring a big contribution to the EU's efforts to increase energy security and become less dependent on oil imports.

## Conclusion and policy recommendations

It is unacceptable that corporations are behind in the transition to zero-emission mobility. Corporates and leasing companies have the financial resources to carry higher upfront costs and are benefiting from big tax benefits in most - if not all - EU countries. Our analysis shows that setting binding zero-emission targets for fleets as part of the Greening corporate fleets initiative can reverse this trend while at the same deliver benefits for EU citizens, the automotive industry and the EU's energy security goals.

The most ambitious scenario (i.e. 100% of all new corporate cars are zero-emission by 2030, and 50% by 2027) clearly delivers the biggest benefits, not only for 2030 but even increasing after.

### The fleets initiative would generate 21 million additional new ZEV sales by 2035



Source: T&E modelling

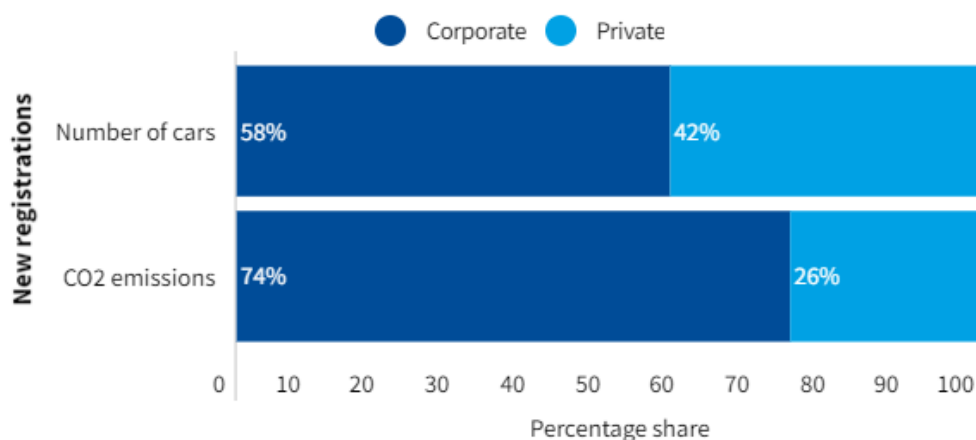
**Therefore as part of the upcoming Greening corporate fleets initiative, the European Commission should propose the following:**

- *Binding* zero-emission targets for all new corporate cars. Experience to date ([see section 2.5.](#)) has taught us that voluntary targets do not work;
- By 2030, all new corporate cars have to be zero-emission. This trajectory is in line with the commitments of European carmakers;
- By 2027, 50% of all new corporate cars have to be zero-emission. This interim target is crucial to guarantee a continuous uptake of zero-emission cars. Without setting this interim target, CO<sub>2</sub> emission savings would be 24% lower (i.e. 24Mt CO<sub>2</sub> instead of 30Mt) in 2030.

# 1. Introduction

In its 2023 work programme, the European Commission announced to come forward with a *Greening corporate fleets initiative* in the third quarter of 2023 (legislative or non-legislative). The decision by the European Commission to take action on fleets was already part of the earlier [REPowerEU](#) strategy, the EU response to Russia's invasion of Ukraine, to reduce dependency on foreign oil and accelerate greenhouse gas emissions savings. In this strategy the Commission stated it would 'consider a legislative initiative to increase the share of zero-emission vehicles in public and corporate car fleets above a certain size'.<sup>1</sup>

The European Commission's decision to look into fleets is the right way forward. Corporate cars are the biggest market in the EU: today over half of cars sold are corporate (58%). Given that on average corporate cars drive twice as much as private, they are responsible for 74% of CO<sub>2</sub> emissions of new sales.



**Figure 1: Corporate cars are the largest car market in the EU and the main contributor to emissions**

Source: T&E calculations based on Dataforce (2023). New passenger car registrations 2022.

Note: Calculations based on WLTP emissions.

By accelerating the electrification of this segment, millions of high-mileage polluting vehicles can be targeted. This would bring positive impacts for the EU's climate agenda, industrial policy, energy security goals and the social justice transition agenda. But currently, the EU is failing to capitalise on this opportunity.

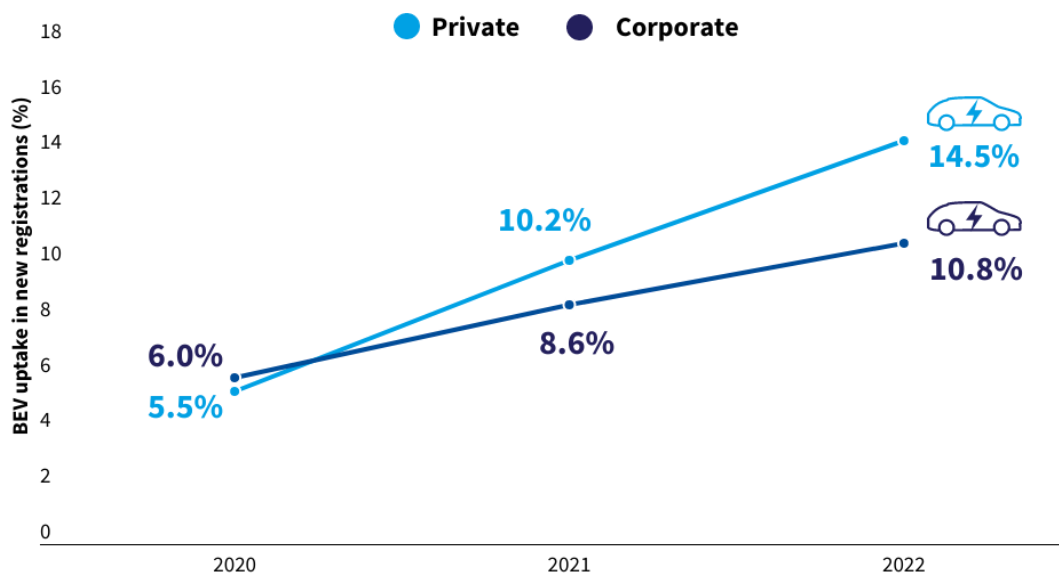
The first part of this paper ([section 2](#)), describes the main reasons why the European Commission should come forward with a legislation setting binding targets for corporate cars. The following chapter ([section 3](#)) looks at the additional CO<sub>2</sub> savings, additional zero emission cars (new and used cars) and oil import reductions an EU legislation on fleets could bring. These results are based on in-house T&E modelling. The final part ([section 4](#)) discusses overall conclusions and policy recommendations.

<sup>1</sup> EC (2022). REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition ([link](#))

## 2. Five reasons why the EU should regulate corporate cars

### 2.1. Market failure: EU's largest car market is lagging behind on electric and “leading” on polluting vehicles

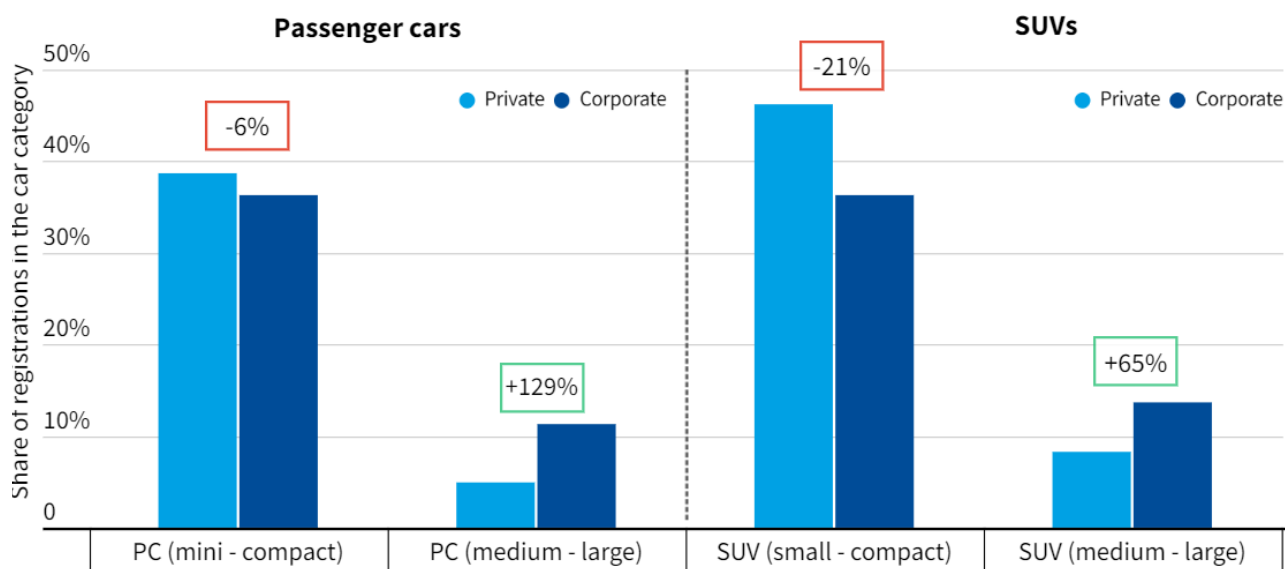
Contrary to common perception, the corporate sector is lagging behind on the shift to battery electric vehicles (BEV). Since 2021, private households have led the BEV uptake in Europe, while the electrification of the corporate cars has been slower. **In 2022, 14.5% of new private vehicles in the EU were battery electric, but only 11% in the corporate sector.** The gap between the two markets is increasing and there are no signs that this situation will change course (*Figure 2*).



**Figure 2: BEV uptake in the corporate channel is lagging behind private households**

Source: T&E calculations based on Dataforce (2021 - 2023). New passenger car registrations 2020 - 2022.

**Moreover, cars entering the corporate fleet are more polluting (i.e. proportionally consuming more fuel) than those registered by private households.** In 2022, the average CO<sub>2</sub> emissions of all petrol and diesel cars (new registrations) in the corporate segment were at 138 g CO<sub>2</sub>/km compared to 130 g CO<sub>2</sub>/km for the private fleet (measured in WLTP). This difference can be explained by the popularity of larger, luxury cars in the corporate market: the share of larger new passenger car registrations in the corporate market is 129% higher than in the private market and 65% higher when looking at large SUVs (*Figure 3*).



**Figure 3: The corporate market has larger cars and SUVs**

Source: T&E calculations based on Dataforce (2023). New passenger car registrations 2022

Notes: PC (mini-compact) also includes small PCs. PC (medium-large) includes the categories of medium, medium-large and large. SUV (small - compact) and SUV (medium - large) includes the two categories in brackets

Whereas the corporate car market is lagging on BEV, they are leading on plug-in hybrid vehicles (PHEVs), with 71% of new PHEVs landing in the corporate channel. However, several studies<sup>2</sup> have confirmed that PHEVs are fake electric cars that have emissions much higher than official values. For corporate cars, this problem is even bigger. Research has shown that the share in electric driving mode for PHEV corporate cars is much lower than private cars, meaning that their real world emissions largely exceed official values. The result is that real-world emissions for PHEVs emit on average 5 times more than official values for corporate cars and 3 times more for private cars. Reasons for this is the fact that corporate car drivers receive fuel cards and purchase PHEVs mainly because of their tax benefits..

For these reasons, a regulation that sets zero-emission targets for the corporate sector is needed. This would reverse the trend of slow uptake of BEVs in the corporate channel, and will substitute the high polluting vehicles predominant in the corporate segment.

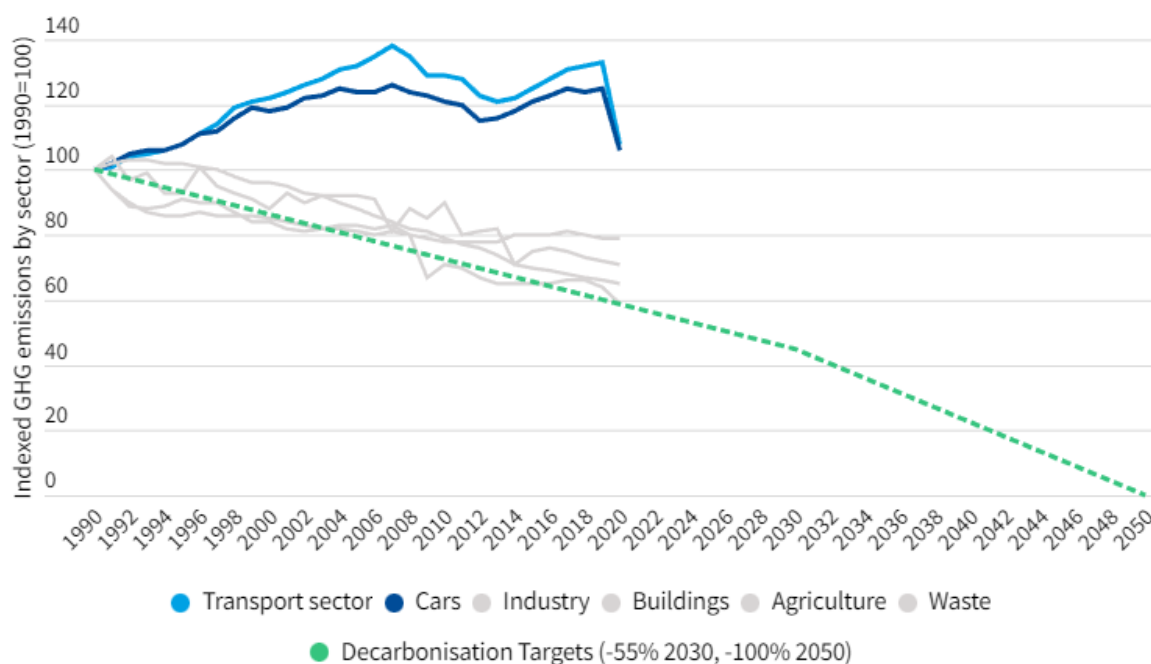
<sup>2</sup> ICCT (2022). Real-world usage of plug-in hybrid vehicles in Europe ([link](#))

T&E (2023). Plug-in hybrids 2.0: A dangerous distraction, not a climate solution ([link](#))

## 2.2. Electrifying corporate cars is crucial to meet new Effort Sharing Regulation targets

In March 2023, the EU adopted the revision of the Effort Sharing Regulation (ESR) which sets binding national climate targets to reduce emissions in road transport, buildings, agriculture, waste and small industries. The emission reduction targets were increased from 30% to 40%.

Road transport is the biggest ESR sector, accounting for 26% of the overall emissions. However, contrary to the other ESR sectors, road transport emissions are still increasing and have gone up by 22% between 1990 and 2019 (*Figure 4*). The sharp reduction in transport emissions in 2020 due to Covid-19 is the only temporary break from this trend. In other words, the EU and Member States will fail to meet their ESR targets, unless they manage to lower road transport emissions before 2030.



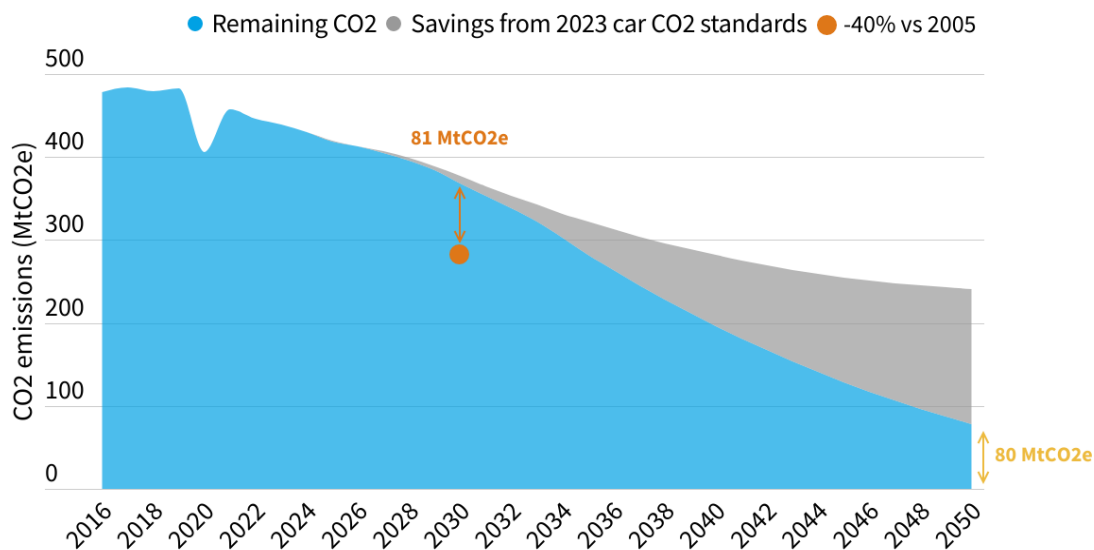
**Figure 4: Transport (and cars) stands alone as an exception to the ESR sectors emission reduction**

Source: T&E analysis of UNFCCC GHG data

With the agreed 2023 EU car CO<sub>2</sub> standards, car emissions in 2030 will still only be 23% lower than 2005 emissions. Meaning that the adopted car CO<sub>2</sub> emissions standards are not sufficient for the EU and Member States to meet their binding ESR targets, which require a 40% average emissions reduction by 2030. **As a result, T&E calculations reveal that even with the agreed EU car CO<sub>2</sub> standards there will be a remaining gap of 81MtCO<sub>2</sub>e for 2030 that needs to be closed if the EU cars fleet wants to contribute its fair share to meeting the ESR targets (*Figure 5*) ([see Methodology section](#)).** Hence Member States and the EU need additional measures that lead to further reductions. Alternatively, other sectors would be required to reduce emissions quicker to compensate if EU Member States are to meet their climate targets.

The analysis in this paper ([see section 3.3](#)) shows that binding targets to electrify all new corporate cars by 2030 would already bring 37% (-30MtCO<sub>2</sub>e) of the required emission savings (-81MtCO<sub>2</sub>e). The main reasons for these big emission cuts are:

- i) the current slow uptake of battery electric vehicles and more polluting cars compared to the private fleet;
- ii) their higher registration share;
- iii) higher mileage compared to private cars.



**Figure 5: In 2030, the gap between the current trajectory and the ESR targets will be 81 MtCO<sub>2</sub>e**

Source: T&E EUTRM modelling of the car fleet tailpipe emissions

Notes: the scope is EU-27

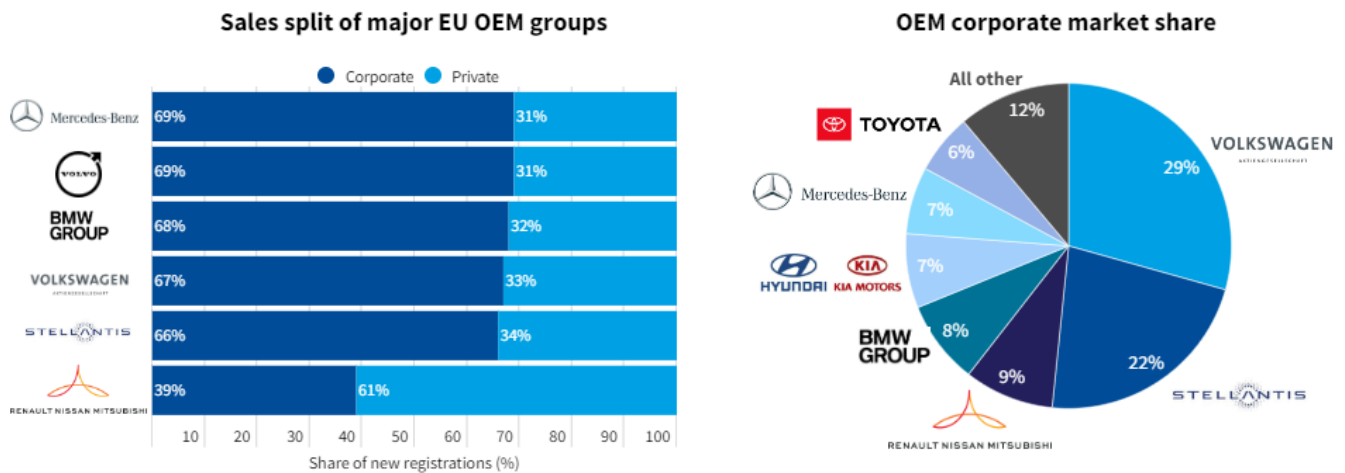
Apart from the emission savings, accelerating fleet electrification will also strengthen the EU's efforts to **increase energy security**. As our analysis shows ([see section 3.5](#)), **electrifying all new corporate cars by 2030 will reduce oil imports by another 208 millions of crude oil barrels compared to current EU policies.**

### 2.3. Industrial policy: Good for European carmakers and the EU Green deal industrial plan

**Carmakers are currently in the midst of a transition towards becoming electric car manufacturers. This cannot be achieved without electrifying the corporate market.** Looking at the sales split of European original equipment manufacturers (OEMs), more than 60% of their total sales (*Figure 6 left*) land in the corporate channel. In addition, European OEMs have a much stronger presence in the corporate market compared to their competitors. All together, they account for 78% of the new corporate registrations (*Figure 6 right*), for the private segment this is 66% .



Moreover, national subsidies for zero-emission cars are being reduced in big automotive markets such as Germany or France, or even completely phased out in countries such as Sweden. This means that the automotive sector needs new demand instruments to guarantee the future uptake of zero emission vehicles (ZEVs). This is exactly what binding EU targets for fleets can bring.



**Figure 6: European OEMs are oriented towards the corporate market and are leading it**

Source: T&E calculations based on Dataforce (2023). New passenger car registrations 2022.

Apart from this, **increasing the ZEV demand in the corporate market can become a cornerstone of the European Commission Green deal industrial plan.** With this plan, the Commission wants the EU to become a leader on green technology. Electric cars, specifically accelerating domestic production of batteries and their components, are a key priority of this industrial plan. In order for this green industrial strategy to succeed, the Commission needs to complement its strategic objectives with concrete policies that further drive the demand for battery electric cars in the EU. Corporate car electrification will be critical for this to become a reality, especially given the fact that this market is currently lagging behind on the uptake of ZEVs.

Finally, **business is asking the Commission to take action.** Earlier this year, major corporate fleets including AstraZeneca, Coca-Cola, IKEA, Uber and Unilever have called on the European Commission to introduce a regulation to make all new corporate cars fully electric by 2030.<sup>3</sup>



Open letter regarding the European Commission Greening Corporate Fleets Initiative: Accelerate the electrification of fleets in Europe

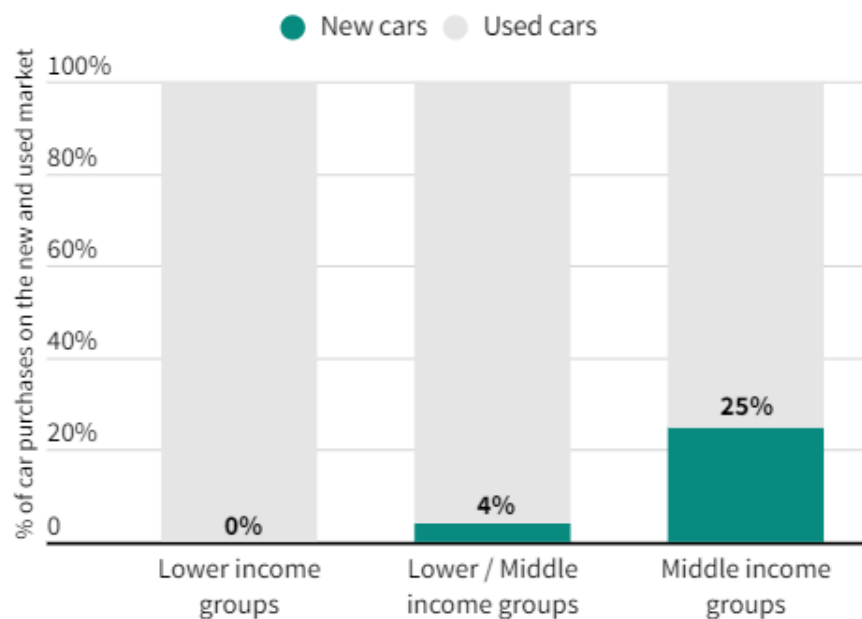
<sup>3</sup> Major corporate fleets including AstraZeneca, Coca-Cola, IKEA, Uber, and Unilever have even called on the European Commission to introduce legislation for all corporate cars ([link](#)).

## 2.4. Social policy: Accelerate the uptake of affordable used ZEVs

Corporate entities are in a better position to bear the current higher upfront costs of ZEVs and lead the way to faster electrification. They have better access to capital and receive tax advantages in almost all EU markets, for example through lower benefit-in-kind rates or favourable write off schemes.

When looking at the private market, **almost eight out of ten Europeans buy their car in the used market**. The lowest income groups (quintile 1) only buy cars on the used car market, and only 4% of the lower/middle income groups (quintile 2) purchase new cars (*Figure 7*). Corporate cars are held for only three to four years - compared to eight to ten years for private cars - before they are sold onto the used car market. **By electrifying the corporate fleet, more affordable ZEVs will enter the used car market, making them accessible for many households in Europe.** Our analysis ([see section 3.4](#)) shows that binding 2027 and 2030 EU targets for corporate cars **would bring 11 million additional new ZEVs by 2030 (21 million by 2035) and 1.5 million affordable used ZEVs by 2030 (12.5 million by 2035).**

In contrast to some fears, the battery degradation of BEVs is much lower than expected. Based on real-world data, there is an average degradation of battery capacity by only 2.3% per year.<sup>4</sup> BEVs such as the Nissan Leaf have been on the market for over a decade, yet almost all of the batteries are still in the cars.<sup>5</sup> As used BEVs benefit from lower operating costs due to the lower total cost of ownership (TCO) and without the high upfront cost of new BEVs, research has shown that a used BEV is the best value option of all car types and ownership periods.<sup>6</sup> **With the corporate channel leading on electrification, this strong TCO would be to the benefit of many lower- and middle-income households.**



**Figure 7: The car purchase channel of the lower income groups is the used market**

Source: CE Delft (2016): LDV CO<sub>2</sub> legislation and the 2nd hand vehicle market

Notes: Low income groups refer to quintile 1, low/middle income to quintile 2 and middle income groups to quintile 3

<sup>4</sup> GEOTAB (2022). Electric vehicle battery degradation tool ([link](#))

<sup>5</sup> Reid, C. (2022). Electric car batteries lasting longer than predicted delays recycling programs. Forbes ([link](#))

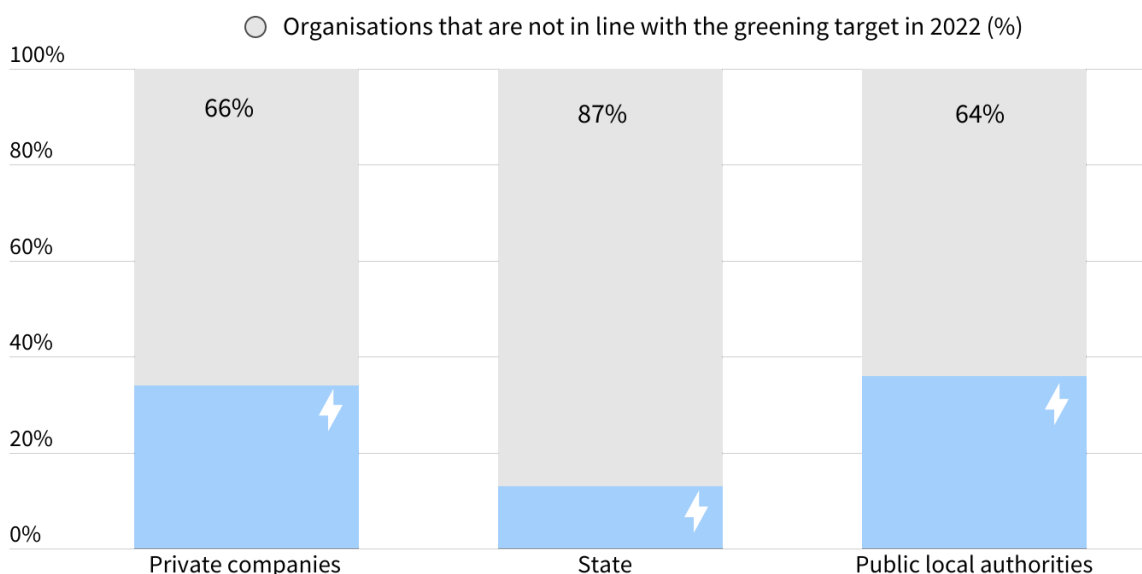
<sup>6</sup> BEUC (2021). Electric cars: calculating the total cost of ownership for consumers (technical report) ([link](#))

## 2.5. Voluntary targets do not work

As mentioned before, the European Commission has communicated that it will come forward with a legislative or non-legislative proposal on corporate fleets. It is crucial that the Commission proposes legislation with binding targets instead of opting for voluntary measures. **The experience of France has taught us that voluntary targets will not work.**

For several years, France has a national legislation in place (LOM and Climat et Résilience laws) that sets non-binding electrification targets for fleets. From 2022 to 2030, private organisations ( $\geq 100$  light-duty vehicles) and public entities ( $\geq 20$  light-duty vehicles) must include an increasing percentage of “green” vehicles (BEVs and plug-in hybrids) in their new orders (10% for private companies, 30% for public local authorities and 50% for State bodies).

Transport & Environment has analysed the uptake of battery electric cars of the fleets that are subject to this law on the basis of registration data for the year 2022<sup>7</sup>. The results showed that **in 2022, 66% of companies with large fleets ( $\geq 100$  vehicles) are not in line with the “greening” targets set by law** (Figure 8). The same applies to 64% of public local authorities and 87% of state bodies with large fleets. **However, there are companies (both large and small) that were achieving and even overachieving the targets which shows that it is possible for fleets to increase ZEV uptake.**



**Figure 8: The vast majority of the French fleets (>100 vehicles) are not in line with the legal voluntary “greening” targets in 2022**

Source: T&E’s analysis based on data from SIV and Sirene, processed by NGC-Data

Notes: The grey area shows the percentage of organisations managing fleets of more than 100 vehicles which are not in line with their respective greening targets for the renewal of their fleets in 2022

<sup>7</sup> T&E (2023). Big companies and government bodies in France are not playing their part in the transition to electric vehicles. [link](#)

### 3. T&E modelling: The impact of an EU fleets initiative

This section analyses the impact (i.e. the additional effects) an EU legislation (i.e. binding zero-emission targets for corporate cars) would generate compared to current EU policies (i.e. the baseline scenario).

**The policy impact model calculates the effects across four metrics:**

- CO<sub>2</sub> emissions of the car fleet
- Uptake of new zero-emission vehicles (ZEVs)
- Uptake of used ZEVs
- EU oil imports.

**The policy impact model applies five potential policy scenarios:**

- All new corporate vehicles fall under the scope of the legislation;
- Corporate fleets above 20 vehicles fall under the scope of the legislation;
- Corporate fleets above 50 vehicles fall under the scope of the legislation;
- Corporate fleets above 100 vehicles fall under the scope of the legislation; and
- All leasing companies (instead of fleets) fall under the scope of the legislation.

For all scenarios, the following targets are set: 100% of the affected cars under the fleets initiative (i.e. new car registrations) are required to be zero-emission vehicles by 2030, with an interim target of 50% by 2027 (*Figure 9*).

This policy impact model was developed by T&E. The focus of the model is the calculation of additional ZEVs, the corresponding decrease in diesel and petrol cars, and the impact across four metrics that align with key policy objectives. More details on the modelling approach are available in the [Methodology section](#).

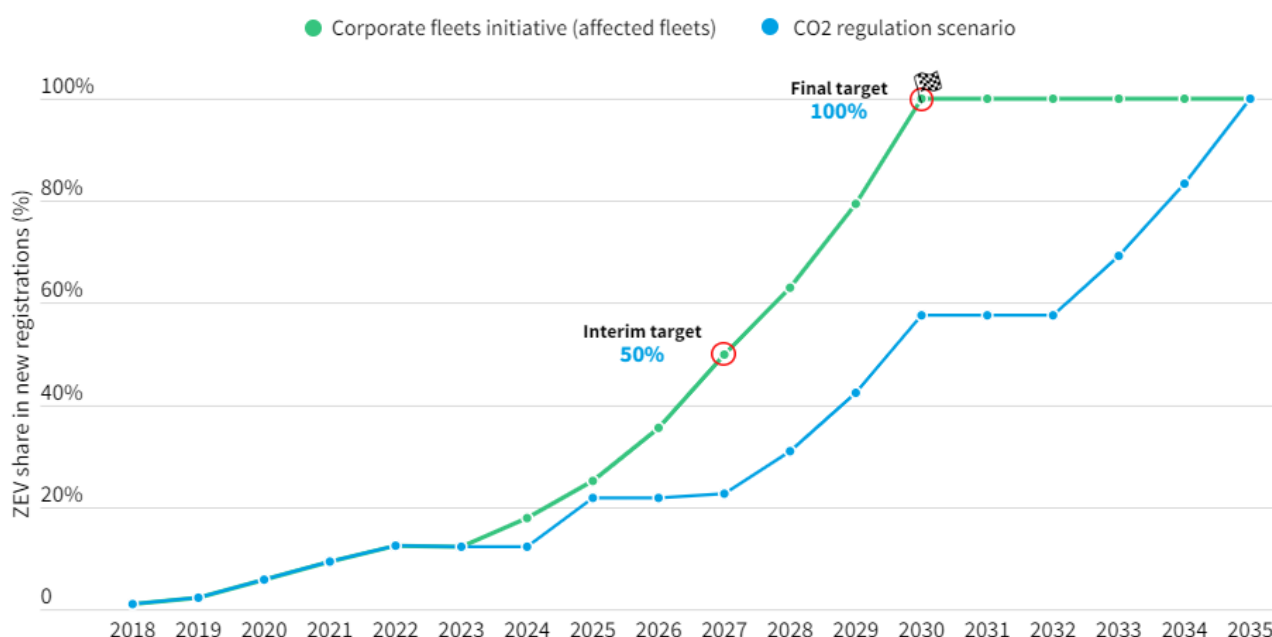
#### 3.1. Baseline scenario

The EU car CO<sub>2</sub> standards are one of the main, if not the primary, driver that sets the pace of the uptake of ZEVs sales from today up to 2035 in the EU. T&E modelled the minimum sale of new ZEVs required to meet the standards set in the car CO<sub>2</sub> Regulation<sup>8</sup>.

Based on the analysis, ZEV sales are projected to increase from 12% of new sales in 2022, 22% in 2025, 58% in 2030, and 100% in 2035. This trajectory, based on compliance with the car CO<sub>2</sub> regulation, serves as the baseline scenario for comparison with the five different policy scenarios.

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<sup>8</sup> The methodology was described in the T&E 2022 car CO<sub>2</sub> report ([link](#)). The new scenario includes the latest development on the zero and low emission vehicle benchmark agreed in the final regulatory text as well as update of the 2021 reference parameters. The total car sales number is projected within the [EUTRM model](#).



**Figure 9: ZEV uptake under CO<sub>2</sub> regulation and policy scenarios for the EU Greening corporate fleets initiative**

Source: T&E modelling based on the EU car CO<sub>2</sub> standards

### 3.2. Scenarios modelled

The five policy scenarios differ based on the entity that falls under the scope of the legislation and therefore the percentage of corporate cars affected by the fleet initiative (*Table 1*). Four of the five scenarios target the corporate entities that purchase or lease the vehicle. The fifth scenario targets the leasing companies that leases the vehicle to a company. The latter scenario has been included to analyse the impact of regulating a sector with a large market share but with a small number of affected entities.<sup>9</sup>

**Table 1: Corporate cars affected by the Greening corporate fleets initiative under different scenarios**

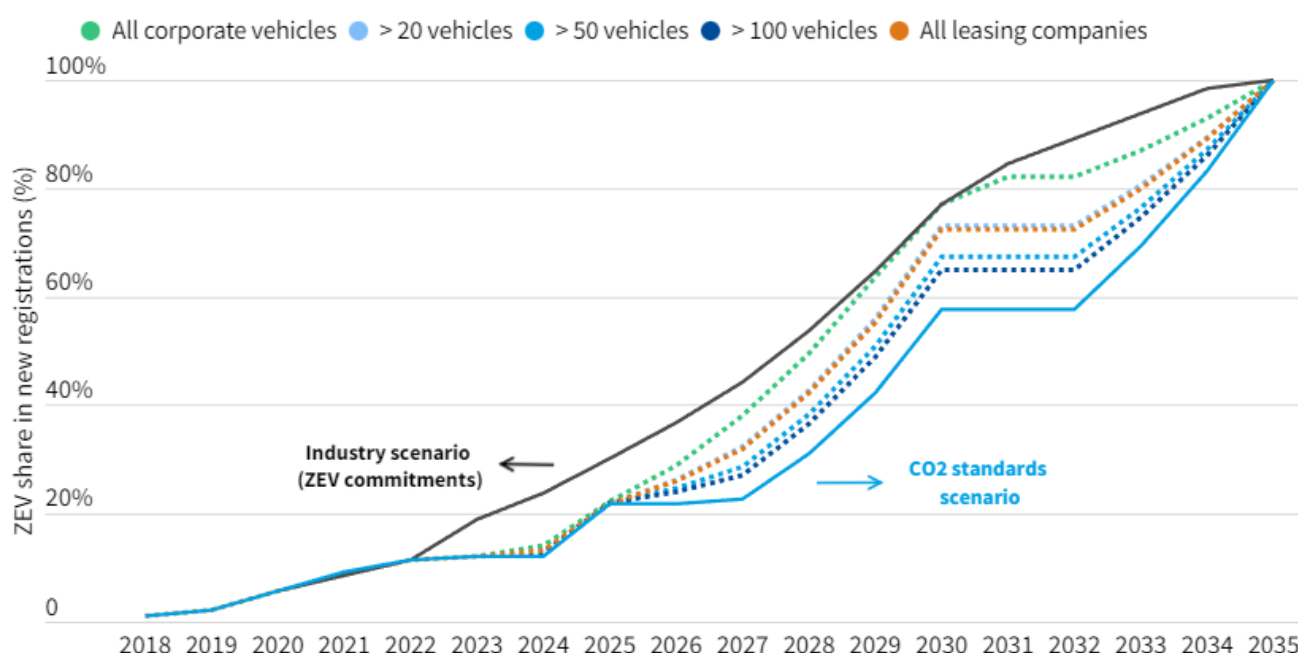
Scenarios (entity affected)	Share of new corporate cars affected by the fleets initiative
All corporate vehicles	100%
Corporate fleets above 20 vehicles	64%
Corporate fleets above 50 vehicles	40%
Corporate fleets above 100 vehicles	30%
All leasing companies (corporate cars)	61%

Source: T&E calculations based on Dataforce (2023), NGC-Data (2023) and MSI Iberia (2018).

Notes: The share of corporate cars affected under scenarios one to four is calculated based on data from Germany (Dataforce), Spain (MSI Iberia), and France (NGC-Data).

<sup>9</sup> T&E (2023). Used electric cars are hot, leasing deals are not. An analysis of used car prices in Europe ([link](#))

The target proposed under the fleets initiative is that by 2030 100% of new corporate cars will be ZEVs. But depending on the policy scenario and cars affected, the total ZEV share changes (coloured lines in Figure 10).



**Figure 10: ZEV share of new registrations under the different scenarios**

Source: T&E modelling

**While these policy scenarios increase the demand for new ZEVs compared to the baseline, even the most ambitious scenarios are aligned with (and actually lower than) the announced commitments of EU carmakers (black line in Figure 10)<sup>10</sup>.**

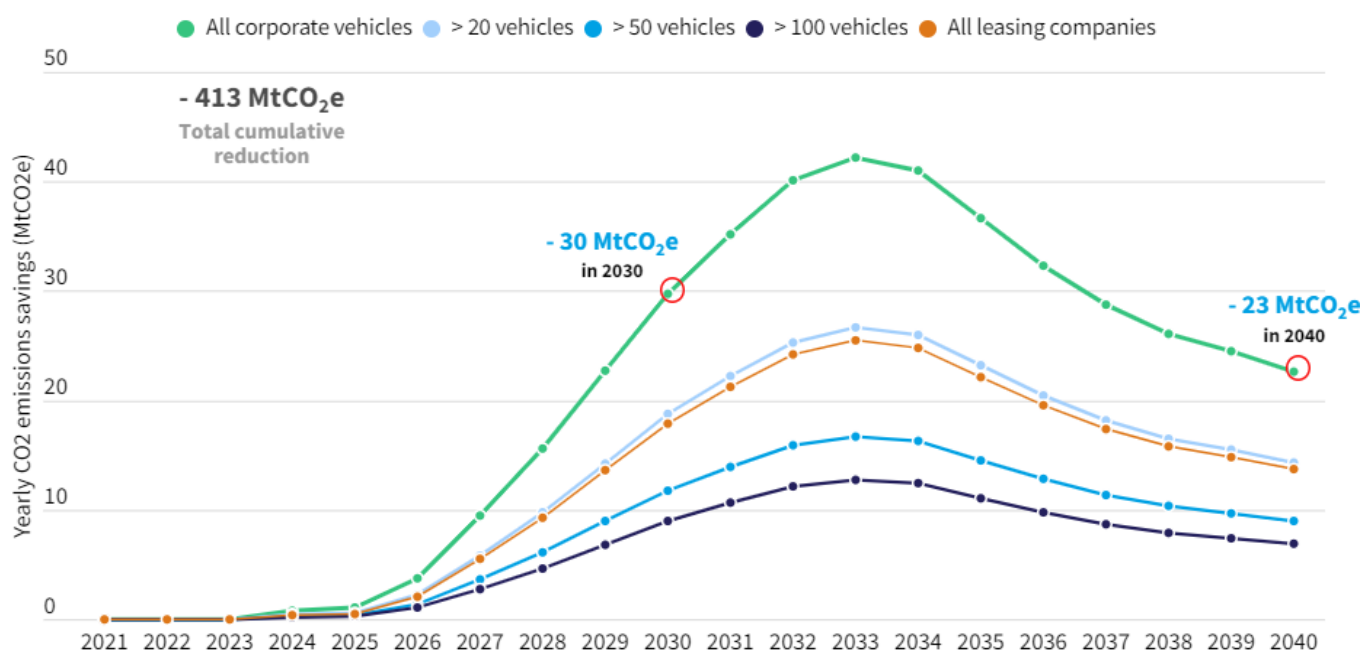
### 3.3. Impact on CO<sub>2</sub> emissions

Due to the higher mileage driven by corporate cars, a faster decarbonisation of the corporate fleet would provide large CO<sub>2</sub> savings compared to the baseline scenario. For the year 2030, the emissions from the car fleet will decrease from 30 Mt CO<sub>2</sub>e under the most ambition scenario (*all corporate vehicles*) to 9 Mt CO<sub>2</sub>e under the low ambition scenario (*>100 vehicles*) by 2030. The annual emissions savings would further increase after 2030, and reach their peak in 2034. This is due to the fact that from 2030 onwards, the percentage of zero-emission corporate car registrations will be much higher than in the baseline scenario mainly because of the binding 2027 and 2030 targets and the shorter ownership period of corporate cars. By 2040, the cumulative emission savings (2024 - 2040) would be 413 Mt CO<sub>2</sub>e (Figure 11).

These significant savings of CO<sub>2</sub> emissions highlight the importance of the fleets initiative, which is expected to play a crucial role in helping the EU and its Member States meet their ESR targets. T&E analysis comparing the current emissions savings trajectory of the agreed 2023 CO<sub>2</sub> standards and the

<sup>10</sup> T&E dashboard. *Ready or not: Carmakers' EV commitments* ([link](#))

emissions reductions required by the ESR targets shows that car emissions in the EU need to be reduced by another 81 Mt CO<sub>2</sub>e by 2030 if the EU and Member States want to be on track to meet their legally-binding ESR targets. In 2030, the fleets initiative would have a very significant impact on reducing the gap (Figure 11): **under the T&E scenario (all corporate vehicles are affected) the fleets initiative would reduce the ESR emissions gap already by 37% (30 Mt CO<sub>2</sub>e savings compared to the 81 Mt CO<sub>2</sub>e gap).**

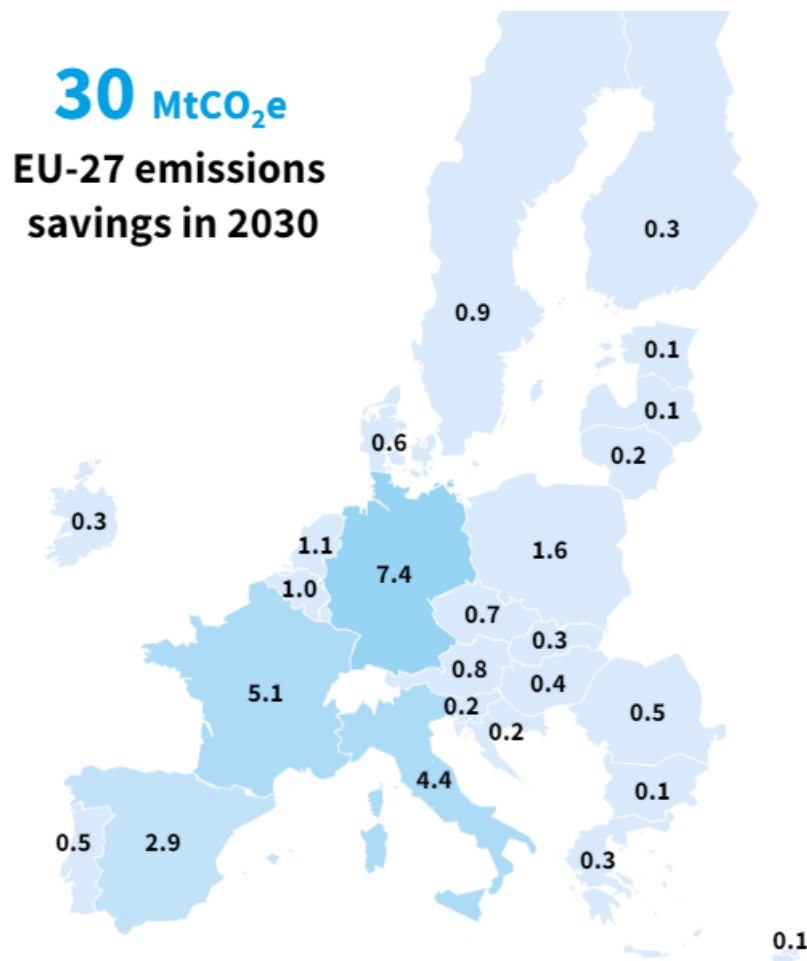


**Figure 11: The fleets initiative could reduce the emissions gap of the ESR targets by 37% in 2030**

Source: T&E modelling

The results per country show that the larger Member States are those with the highest emission reductions. In fact, emission savings from Germany, France, Italy, and Spain account for 66% of the total emissions savings in 2030 (Figure 12). Since Member States have the legal obligation to meet the targets set by the Effort Sharing Regulation (road transport is the biggest ESR sector, accounting for 26% of the overall emissions<sup>11</sup>), the fleet initiative would deliver a large share of the required emission reductions.

<sup>11</sup> T&E calculations based on UNFCCC 2022. Passenger cars represent 45% of total Transport emissions (2022).



**Figure 12: Emissions savings from the Greening corporate fleets initiative in 2030, by EU Member States**

Source: T&E modelling

Notes: The results shown in the graph refer to the T&E scenario (all corporate cars are affected)

### 3.4. Impact on ZEV sales

#### 3.4.1. Uptake of new ZEVs

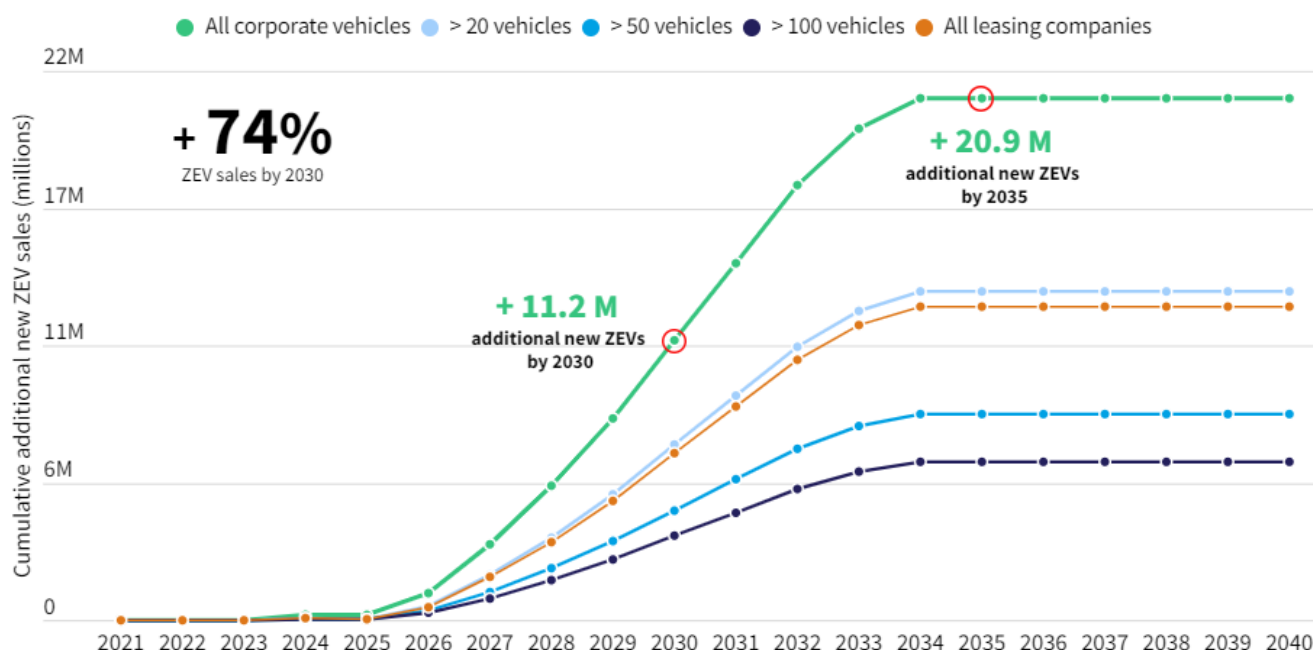
The fleets initiative would provide a demand side push for ZEVs and would increase the uptake of ZEVs in 2030 from 58% (baseline scenario i.e. the CO<sub>2</sub> standards trajectory) to 77% in the most ambitious policy scenario (*all corporate cars affected*). Even under the least ambitious policy scenario (*fleets of >100 vehicles*), total ZEV registrations for 2030 would increase to 65% .

When looking at the cumulative effects (total number of additional ZEVs on the market from 2024 to 2030), **binding targets for all new corporate cars could bring 74% more ZEVs (11.2 million) on the road by 2030** under the most ambitious policy scenario. The strong growth already in 2030 can be



explained by the binding 2027 target and the short ownership period of corporate cars compared to private vehicles.

**If these cumulative results are extended to 2035, the number of additional ZEVs (2024 until 2035) on the EU market would reach 21 million** (+49% compared to the baseline scenario of the CO<sub>2</sub> regulation). As the cars CO<sub>2</sub> regulation requires 100% ZEV in 2035, the cumulative impact remains the same in 2040.



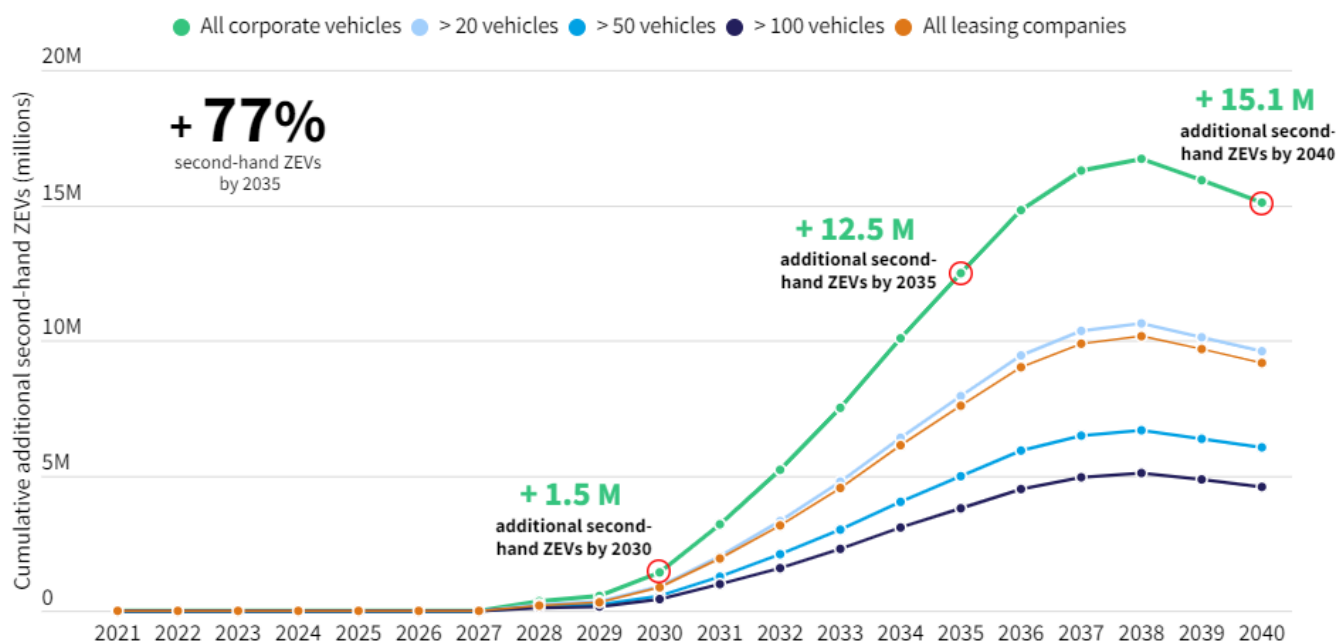
**Figure 13: The fleets initiative would generate 21 million additional new ZEV sales by 2035**

Source: T&E modelling

### 3.4.2. Uptake of used ZEVs

The fact that corporate cars are kept for only three to four years - compared to eight to ten years for private vehicles - before being sold on the used car market, means that by electrifying the corporate fleet the penetration of more affordable ZEVs into the used car market will be much faster, making them accessible to many European households.

Our analysis confirms the potential of corporate cars to speed up the supply of used ZEVs. **Under the most ambitious policy scenario** (i.e. setting binding targets for all new corporate cars by 2030), **1.5 million additional and more affordable used ZEVs would enter the market**. Because of the combination of a more ambitious 2030 target and the short ownership period of corporate cars, **we can observe a strong growth effect after 2030: by 2035, 12.5 million and by 2040, 15 million additional ZEVs enter the used car market**. This means that in 2030 there will be 44% more ZEVs in the second-hand market and 77% in 2035 compared to the baseline scenario (Figure 14).



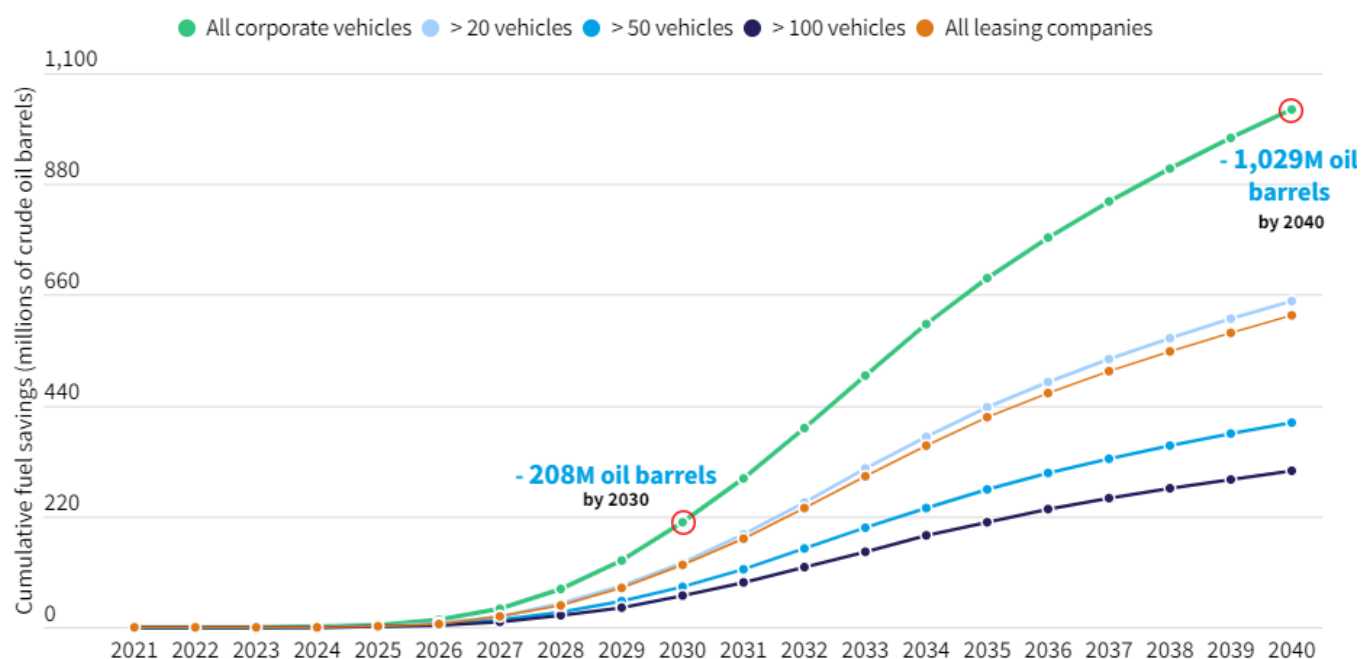
**Figure 14: The fleets initiative could bring 12.5 million additional used ZEVs by 2035**

Source: T&E modelling

### 3.5. Impact on oil reduction

One of the effects of increasing the share of zero-emission vehicles in the corporate car fleet is that fuel demand - and as such oil imports - decreases. Like ZEV uptake and CO<sub>2</sub> savings, here the impacts are also substantial. The main reasons for this are the high mileage, large share of corporate cars and a higher presence of more luxury cars in the corporate segment. Under the most ambitious policy scenario, fuel in the amount of energy used in **208 million barrels of crude oil could be saved in the period 2024 - 2030.**

Like CO<sub>2</sub> savings there is an increasing trend up to 2040 (Figure 15). This has mainly to do with the fact that the fleet of new ZEVs continues to grow (i.e. less ICE on the road), while at the same time more ZEVs enter the used car market. This means that by 2040, oil import savings would amount up to 1,029 million barrels of oil in the most ambition scenario (a 7% reduction compared to the baseline scenario). These reductions in oil demand and imports can bring a very substantive contribution to the EU's efforts to increase energy security and reduce oil import dependency, one of the key goals of the REPowerEU strategy.



**Figure 15: The fleets initiative could reduce oil demand by 208 million barrels already in 2030**

Source: T&E modelling

Notes: Fuel savings refers to the equivalent amount of energy used in a barrel of crude oil

### 3.6. Conclusions

Our analysis shows that setting binding targets for corporate cars has significant positive impacts compared to current EU policies in terms of CO<sub>2</sub> emissions savings, the uptake of new and used ZEVs and oil imports. The effects are already substantial to strong by 2030, and even increasing further from 2030 onwards. The following table details the cumulative impacts by 2030 and 2040.

**Table 2: Summary of cumulative impacts under the different scenarios**

Additional impact compared to baseline scenario	Scenarios (cumulative impact)									
	2030					2040				
	All corporate vehicles	> 20 vehicles	> 50 vehicles	> 100 vehicles	All leasing companies	All corporate vehicles	> 20 vehicles	> 50 vehicles	> 100 vehicles	All leasing companies
Emissions savings (MtCO <sub>2</sub> e)	83.3	51.8	32.5	25.0	49.3	412.7	260.1	163.3	124.9	248.2
Additional BEV sales (millions)	11.2	7.0	4.4	3.4	6.7	20.9	13.2	8.3	6.3	12.6
Oil savings (M barrels)	207.6	129.1	81.1	62.4	122.9	1,028.8	648.4	407.0	311.2	618.8

When comparing the effects of the different policy scenarios, **the most ambitious scenario (i.e. 100% of all new corporate cars have to be zero-emission by 2030, and 50% by 2027) is clearly delivering the biggest benefits.**

Analysing the effects of the other scenarios (*see also table 2*), **we can conclude that setting binding targets for leasing companies delivers almost the same benefits as scenario 2 (set targets for fleets with >20 vehicles).** As a previous T&E study showed, leasing companies are major players in the automotive market but have low to no zero-emission goals and need a regulatory push. Moreover, this market is very concentrated which makes regulating this segment more straightforward.

## 4. Policy recommendations

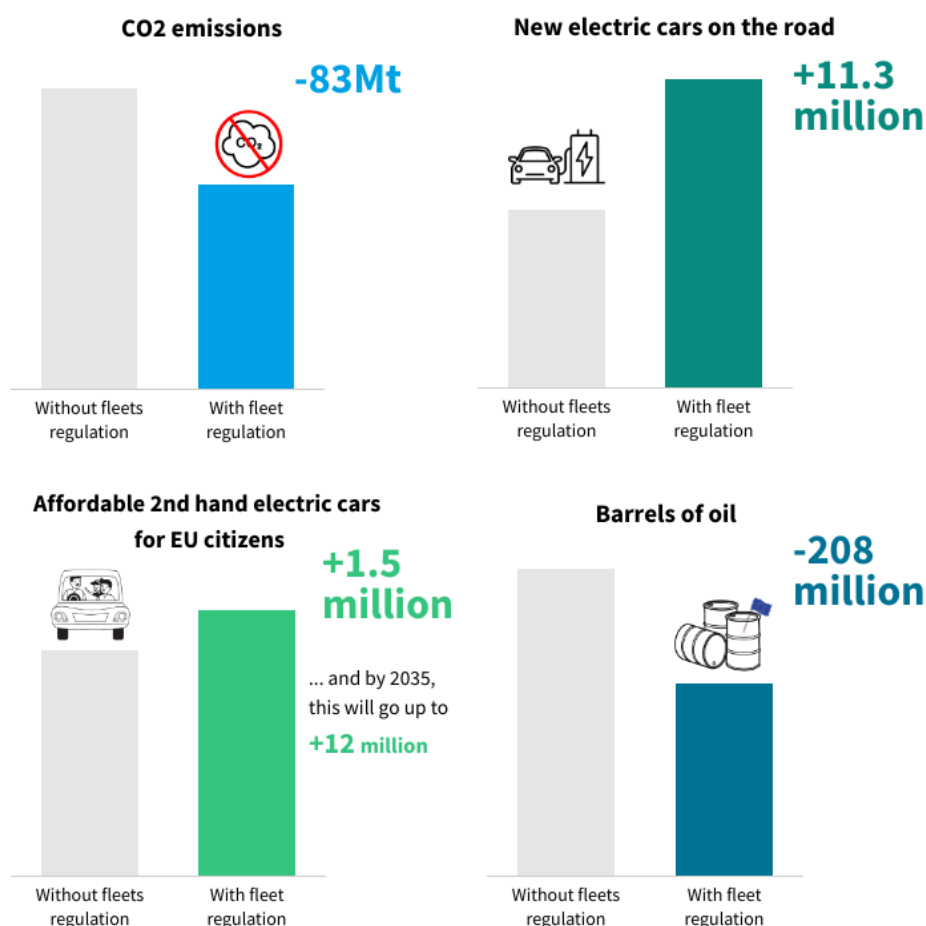
Corporate cars are currently slowing down EU's efforts to become a climate-neutral continent and decarbonise the transport sector. It is unacceptable that companies are lagging behind. They have the financial resources to carry higher upfront costs and are benefiting from big tax benefits in most - if not all - EU Member States. Hence they should lead rather than lag behind in the shift to zero-emission mobility.

Meanwhile, transport emissions are not decreasing and - as discussed in this briefing - current EU policies (incl. the EU car CO<sub>2</sub> emissions standards) are not sufficient for the EU and Member States to meet the 2030 Effort Sharing Regulation targets.

**Our analysis shows that accelerating the electrification of corporate cars by setting binding zero-emission targets, can change this trend.** It will bring a large share of the required emission cuts for meeting the ESR targets, while at the same delivering benefits for EU citizens and the automotive industry.

Given the compelling arguments and evidence in this briefing regarding the reasons why the EU should act on corporate cars and the positive impacts of this, the European Commission should be as ambitious as possible. High ambition is not only necessary but also realistic and the benefits are multiple.

## Four-fold impact of making all corporate cars in the EU zero-emission by 2030



**Therefore as part of the upcoming Greening corporate fleets initiative, the European Commission should propose the following:**

- *Binding* zero-emission targets for all new corporate cars. The experience in France has taught us that voluntary targets will not work.
- For 2030, all new corporate cars have to be zero-emission. This trajectory is in line with the commitments of European carmakers.
- For 2027, 50% of all new corporate cars have to be zero-emissions. This interim target is crucial to guarantee a continuous uptake of zero-emission cars. Without setting this interim target, CO<sub>2</sub> emission savings would be 24% lower (i.e. 24Mt CO<sub>2</sub> instead of 30Mt) in 2030.

## Methodology

Two modelling tools have been used in this briefing. For the calculation of the ESR gap, T&E's European Internal Transport Roadmap Model ([EUTRM](#)) is used. For the impact of the fleets initiative, an ad-hoc model has been developed for the purpose of this project (sharing the main assumptions and parameters of the EUTRM model).

### ESR gap calculation

#### EUTRM, T&E's car fleet emission mode

EUTRM makes use of the most recently available data such as the 2021 car fleet composition<sup>12</sup> and the latest car activity forecast from the European Commission (EC)<sup>13</sup> to model the turnover of the whole car fleet on EU27 roads. It is based on historical data on fleet behaviour (e.g. fuel consumption, emissions, car retirement age, mileage changes depending on car age) and scenario inputs (e.g. car activity, electric cars sales share), the model's outputs include the fleet composition and the associated CO2 emissions until 2050.

#### Climate targets (ESR gap)

The EU has set a net zero emission target by 2050 and the European Green Deal includes an intermediate target to reduce emissions by an average 40% reduction for sectors covered by the ESR, which includes road transport. The EU climate goal in 2050 is a net zero emissions target which means that negative emissions could be theoretically used to offset remaining positive emissions. However, we assume that car fleet emissions would need to go to zero tailpipe emissions in order to achieve this target given the uncertainty and risk of relying on carbon sinks or carbon capture and storage to reduce CO2<sup>14</sup>. We also assume that emissions of upstream sectors such as the electricity generation used for BEV charging will transition to zero emission as well. In this report, the ESR target is assumed to be fully applied to cars (i.e. EU car fleet emissions need to reduce by -40% in 2030) as every sector needs to achieve its fair share of efforts and this would avoid cars to remain a burden for Member States' own climate targets.

#### Fleet size modelling

Under the baseline scenario it is expected that car activity will grow in line with the European Commission's expectation that transport activity for passengers will continue growing in the future<sup>15</sup>. The decline of activity in 2020 due to the COVID-19 pandemic is projected to be followed by a rebound in activity for 2025-2030. Based on the EUTRM model and assuming a constant car occupancy rate in the baseline scenario, this activity increase would lead to a growth in the size of the EU car fleet.

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<sup>12</sup> ACEA (2023). Vehicles in use, Europe 2023 ([link](#))

<sup>13</sup> EC (2021). EU Reference Scenario 2020 ([link](#))

<sup>14</sup> The Secretariat of the German Advisory Council on the Environment (SRU) describes examples of uncertainties and risks. For instance, in the case of afforestation, the carbone storage is vulnerable to disturbances such as forest fires and droughts. In the case of direct air carbon capture and storage, the technologies are not available yet at industrial scale and they would require major energy and financial investments. ([link](#))

<sup>15</sup> In EUTRM, this is aligned with the European Commission (EC) reference scenario 2020. ([link](#))

The EU27 car fleets CO2 emissions are predominantly determined by the following parameters:

- **Transport demand** (number of kilometres travelled in passenger-km): Overall transport demand impacts the number of kilometres driven by car, the higher the demand the higher the car fleet kilometres driven. A broad range of measures can be aimed at reducing the distance travelled, for instance by providing a better distribution of services within cities and avoiding urban sprawl.
- **Modal split** (split in distance travelled between car and other transport modes): Car activity can be reduced by shifting transport demand from car to active mobility and public transport.
- **Zero-emission vehicles (ZEVs) uptake** (percentage of ZEV in the fleet): Resulting from the sales of new ZEVs, the uptake of ZEV in the overall car fleet defines the percentage of car activity with zero tailpipe emissions<sup>16</sup>.
- **Energy consumption** (energy consumed per km): Energy consumption depends both on the specific characteristics of cars (e.g. size, weight, engine power) and their use in real world conditions such as driver behaviour and speed.
- **ICE lifespan**: The shorter the lifetime of ICE cars, the faster the transition toward cleaner, lower emission solutions.

## Fleets initiative impact

### Fleet size modelling

The EUTRM tool has been used to model the forecast of new passenger car registrations in EU-27 (see previous point). This forecast follows the latest [LMC automotive](#) data and is in line with the expectation that car activity will grow in line with the European Commission's expectation that passenger transport activity will continue growing in the future.

### ZEV uptake

Under the baseline scenario, T&E modelled the minimum sale of new ZEVs required to meet the standards set in the car CO2 Regulation. The methodology was described in the T&E 2022 car CO2 report ([link](#)). The new scenario includes the latest development on the zero and low emission vehicle benchmark agreed in the final regulatory text as well as update of the 2021 reference parameters.

Under the scenario for cars affected by the fleets initiative, the sales of new ZEVs required to meet the interim target (2027 - 50% ZEV) and the final target (2030 - 100% ZEV) have been applied. An exponential growth has been applied between these two key points, as the delivery of new ZEVs is expected to increase close to the target points.

### Effects on the private market

The effects on the private market are twofold: on the one hand, the increased uptake of ZEVs in the corporate market causes more ZEVs entering the private channel after four years through the

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<sup>16</sup> The focus is placed on direct tailpipe emissions. To understand the overall life cycle emissions of electric cars, please refer to <https://www.transportenvironment.org/discover/how-clean-are-electric-cars/>

second-hand market. This situation has a positive impact, as the electrification of the private market will be accelerated and therefore the demand for ICEs is lower, bringing emissions reductions and affordable second-hand ZEVs.

On the other hand, because under the fleets initiative the uptake of ZEVs in the corporate market will be higher, it has been assumed in the modelling that OEMs will reduce the allocation of ZEVs in the private market in the years before reaching profit parity between ZEVs and ICEs (2026 / 2027). This results in a negative impact on the private market (fewer ZEVs, and thus more ICEs on the road) in the first years.

### **Affected fleet in the scenarios**

The scenarios of corporate cars affected depending on the size of the fleet (>20 vehicles, >50 vehicles, >100 vehicles) have been calculated only from the perspective of the user of the vehicle. That is, if a company has a vehicle fleet of 40 vehicles, it would fall into the calculations of affected vehicles under the >20 vehicles scenario but not under the >50 vehicles scenario. This definition is important, as leasing companies, not being the users of the vehicles, are only affected by the vehicles they have in use for their employees. Therefore, a new scenario based on leasing companies is added, whereby all vehicles leased by leasing companies are affected.

### **Survival curve and km driven curve**

The new fleet composition created with the fleets initiative is aged through the application of survival rates and adjusted for the fact that older vehicles are typically driven less than newer ones.

Historical survival rates for all vehicle types are estimated from TRACCS<sup>17</sup> and are adjusted for import and export activity. Using the estimated bilateral trade matrices the total amount of exports as a percentage of vehicle sales was estimated and then applied to discount the survival rates of vehicles. Likewise, the total amount of imports as a percentage of total vehicle stock was estimated and then applied to inflate the survival rate to account for the replacement of vehicles of varying ages. The average survival rates estimated from the five years of available TRACCS data are assumed to hold for all time periods.

Average annual distance travelled per vehicle (measured in km) was collected for all modes from TRACCS. Projections of average annual distance travelled per vehicle for LDVs are calculated based on vehicles per capita (VPC). The higher the number of vehicles per capita the smaller the average annual distance travelled per vehicle. The initial distance driven is differentiated by corporate and private cars, assuming that true corporate fleets, corporate rental cars and leased corporate cars are driven 2.25 times more km than private.

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<sup>17</sup> TRACCS (2013) is a transport database by EMISIA S.A. Available at this [link](#)



## Further information

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