Technical update of the non-paper (Sept 2018) on Cars/Vans CO_2 Regulation proposal: Additional assessment of higher ambition levels for the targets and ZLEV benchmarks

Introduction

This is a technical update of the non-paper (September 2018) complementing the Impact Assessment accompanying the legislative proposal setting CO_2 standards for cars and vans post-2020. It analyses the impacts of additional scenarios[1] using the same methodological approach as in the Impact Assessment.

The assumptions made for the target levels and the incentive for zero- and low-emisison vehicles (ZLEV) for cars and vans under the additional scenarios considered in this non-paper are summarised in Table 1.

Scenario	CO_2 Targets		ZLEV Incentive[2]		
	2025	2030	Type	Mandate/Benchmark level	
				2025	2030
35%	15%	35%	One-way crediting system	15%	35%
40%_35%ZLEV	20%	40%	Two-way crediting system	20%	35%
45%_40%ZLEV	20%	45%	Two-way crediting system	20%	40%
45%	22.5%	45%	None		

Table 1: Targets and ZLEV incentives in the additional scenarios[3]

In the assessment of the scenarios with a two-way crediting system, the benchmark levels are assumed to be met at fleet level, driven by the strong policy signal. In case of underachievement of the benchmark, the CO_2 targets get stricter by up to 5%. For instance, for the scenario 40%_35%ZLEV, if the benchmark levels are not met, the CO_2 target tends towards 45%, so that the overall impacts of the policy tend towards the results of the 45% scenario.

[1] The non-paper presents the results of these additional scenarios together with the results of scenarios already analysed in the Impact Assessment, i.e. Scenarios 30% and 40%

[2] The definition and the accounting rule for ZLEV are as in the Commission proposalnly. A separate analysis is provided at the end of the non-paper of the changes to the ZLEV accounting rule as proposed by the Council.

[3] All results for scenario 45% are calculated by interpolating the results of scenarios 40% and 50% (as set out in the Impact Assessment)

Fleet composition

Table 2 provides the projected market shares of ZLEV in 2030 in the new cars fleet under the different scenarios. In the case of more ambitious targets and benchmark levels, the projected shares of ZLEV in the 2030 new car fleet increase drastically compared to 2017 (1% ZLEV). Higher benchmark levels lead to a shift towards more BEV at the expense of PHEV.

Projected market shares in 2030 in the new cars fleet				
Scenario	Plug-in hybrid vehicles (PHEV)	Battery Electric Vehicles (BEV)	Fuel Cell vehicles (FCEV)	**Total ZLEV**
30%	11%	7%	2%	**20%**
35%	13%	8%	2%	**23%**
40%	16%	10%	3%	**29%**
40%_35%ZLEV	17%	20%	6%	**43%**
45%	19%	12%	3%	**34%**

Table 2: Projected market shares in 2030 in the new cars fleet

As shown in Table 3 below, the projected number of new ZLEV registrations in 2030 increases significantly under the different scenarios with respect to 2017, when around 96,000 BEV and 120,000 PHEV were newly registered[4].

Projected number of newly registered ZLEV in 2030 (thousands of cars)				
Scenario	Plug-in hybrid vehicles (PHEV)	Battery Electric Vehicles (BEV)	Fuel Cell vehicles (FCEV)	**Total ZLEV**
30%	2,162	1,420	380	3,962
35%	2,535	1,629	428	4,592
40%	3,157	1,962	514	5,633
40%_35%ZLEV	3,323	4,035	1,133	8,492
45%	3,799	2,285	593	6,676

Table 3: Projected number of newly registered ZLEV in 2030

As shown in Table 4, the projected absolute number of ZLEV in the **total car stock** in 2030 also represents a significant increase with respect to 2017 (around 300,000 BEV and 370,000 PHEV[5]). The projected number of ZLEV ranges between around 30 million vehicles in circulation under the 30% scenario up to around 70 million vehicles under the 40%_35%ZLEV scenario.

[4] Source: European Alternative Fuels Observatory (EAFO) : http://www.eafo.eu/eu#summary_anchor

[5] Idem

Projected number of ZLEV in the stock of cars in 2030 (thousands of cars)				
Scenario	Plug-in hybrid vehicles (PHEV)	Battery Electric Vehicles (BEV)	Fuel Cell vehicles (FCEV)	**Total ZLEV**
30%	16,494	9,780	2,762	29,036
35%	17,841	10,486	3,024	31,351
40%	21,331	12,256	3,607	37,194
40%_35%ZLEV	37,223	26,074	7,780	71,076
45%	24,458	13,825	4,111	42,394

Table 4: Projected number of ZLEV in the stock of cars in 2030

Recharging and refuelling infrastructure

The number of ZLEVs on the market will inevitaby influence the speed of deployment of charging stations, which ultimatively have to be deployed anyway to decarbonise the transport sector. This is illustrated in Table 5. Assuming that one public charging point is necessary per 10 electric cars (BEV and PHEV), the number of public charging points required in 2030 would range between 2.6 million under the 30% scenario and 6.3 million for the 40%_35%ZLEV scenario. This represents an increase by a factor 20 to 50 compared to the 120,000 publically available charging points currently available in the EU[6] .

This estimate does not capture further developments in battery capacity and recharging speed, nor scale effects as it assumes a constant ratio between the number of cars and the corresponding number of public charging points required. Both battery capacity and recharging speeds will reduce the number of necessary charging points. Nevertheless, it gives an indication of the additional effort needed with respect to the current situation.

The abovementioned figures do not include the necessary hydrogen refilling stations. These will require a substantial increase of the currently available stations to be able to cover the needs of the projected 2.8 million fuel cell vehicles under the 30% scenario and around 7.7 million fuel cell vehicles under the 40%_35%ZLEV scenario. Today, only few hydrogen refilling stations exist in the EU[7].

Projected number of EV and public electric charging points in 2030 (thousands)				
Scenario	Plug-in hybrid vehicles (PHEV)	Battery Electric Vehicles (BEV)	Total PHEV + BEV	**Number of public charging points**
30%	16,494	9,780	26,274	2,627
35%	17,841	10,486	28,327	2,832
40%	21,331	12,256	33,587	3,359
40%_35%ZLEV	37,223	26,074	63,297	6,329
45%	24,4575	13,825	38,2825	3,8285

Table 5: 2030 Projected number of EV and public electric charging points (all in thousands)

[6] http://www.eafo.eu/electric-vehicle-charging-infrastructure

[7] See http://www.eafo.eu/infrastructure-statistics/hydrogen-filling-stations - The data are currently under review and will be updated soon

The estimated investments required for the necessary recharging and refuelling infrastructure (electricity and hydrogen), both private and public, are shown in Table 6 for the different scenarios. They are expressed as cumulative annualised costs over the period 2020-2040.[8]

Recharging/refuelling infrastructure investments - cumulative annualised costs 2020-2040 (million euro)		
Scenario	Total cost	Difference compared to the baseline
Baseline	50,329	0
30%	81,479	31,150
35%	88,049	37,720
40%	102,534	52,205
40%_35%ZLEV	161,181	110,852
45%	116,317	65,988

Table 6: Investment costs in recharging/refuelling infrastructure

Economic impacts

Following the same methodological approach as in the Impact Assessment, the direct economic impacts have been assessed by considering the net changes (i.e. changes compared to the baseline) in capital costs, fuel costs, and operating and maintenance (O&M) costs for an "average" new car[9], registered in 2030.

For the analysis of the economic impacts, as in the Impact Assessment, the following indicators were used[10]:

- Net economic savings over the vehicle lifetime from a societal perspective

  This parameter reflects the change in costs over the lifetime of 15 years of an "average" new vehicle without considering taxes and using a discount rate of 4%.

- Net economic savings from a consumer perspective

  This parameter reflects the change in costs over the lifetime of 15 years of an "average" new vehicle. In this case, given the end-user perspective, taxes are included and a discount rate of 11% is used.

[8] The calculations for BEV and PHEV are based on the assumption of 1 private and 0.1 public charging point for each vehicle, with actual ratios likely to differ depending on the type of charging (slow or fast), developments in battery and charging technology, and scale effects. For hydrogen refuelling, country specific utilisation rates are assumed (cars serviced per filling station), which progressively increase to conventional petrol filling stations utilisation/service ratios. Cost assumptions are based on the ASSET project: https://ec.europa.eu/energy/sites/ener/files/documents/2018_06_27_technology_pathways_-_finalreportmain2.pdf. In all scenarios, the investment costs for the recharging and refuelling infrastructure are calculated as annuity payments for capital, with a discount rate of 8%. The cumulative costs in the period 2020-2040 are therefore presented in order to capture the impact of the 2030 investments.

[9] An "average" new vehicle of a given year is defined by averaging the contributions of the different segments of small, medium, large vehicles and powertrains by weighting them according to their market penetration as projected. For more information, see Commission Staff Working Document SWD(2017) 650 final

[10] For more information, see Commission Staff Working Document SWD(2017) 650 final

Net economic savings (+) or net economic costs (-) per new 2030 average car		
Scenario	**Societal perspective**	**Consumer perspective**
30%	+800 €	+1,400 €
35%	+790 €	+1,260 €
40%	+560 €	+1,000 €
40%_35%ZLEV	-700 €	-150 €
45%	+280 €	+695 €

Table 7: Net economic savings or net economic costs per new 2030 average car

As shown in Table 7, from a societal perspective, the 30% scenario leads to the highest net economic savings for a new 2030 average car. These savings decrease with higher ambition levels. This effect is explained by the significant increase of the additional upfront costs for an “average new car” under the more ambitious scenarios assuming that consumer preferences remain identical.

The analysis also shows that the economic impacts depend on the combination of the target and the ZLEV benchmark levels, which drives the composition of the fleet of new vehicles in terms of powertrains and segments. Of course, the decision of buying a car is not rational and heavily influenced by the marketing strategy of manufacturers. High ZLEV benchmark levels for a given CO_2 target level, as in the scenario 40%35%ZLEV, may lead to an increase in the net economic costs, both from a societal and consumer perspective. With the increased penetration of ZLEV driven by the high benchmark level, less effort will be needed in improving the efficiency of the conventional vehicles to meet the proposed fleet-wide CO_2 target. This results in a projected shift towards larger segments for conventional vehicles leading to an increase in the costs and negative impacts on the net savings.

Employment impacts

The same modelling approach as for the Impact Assessment has been used to analyse the employment impacts of the additional scenarios. From a macro-economic perspective, target levels incentivising ZLEV lead to small positive impacts in terms of overall employment. Increased consumer expenditure, increased investment in infrastructure, reduction of oil imports, and expansion in the battery sector in the EU are all positive drivers for total jobs creation. Reduction of air pollution and related economic benefits of lower loss of GDP due to health and lost working days are not factored in this calculation.

Total EU employment in 2030 (compared to baseline)				
Scenario	**batteries imported**		**batteries produced in EU**	
Baseline (thousands)	230,207		230,233	
	Percentage additional jobs	Additional number of jobs (thousands)	Percentage additional jobs	Additional number of jobs (thousands)
30%	0.02%	46	0.03%	69
35%	0.025%	57	0.035%	80
40%	0.03%	69	0.04%	92
40%_35%ZLEV	0.02%	51	0.065%	148
45%	0.03%	60	0.04%	96

Table 8: Total EU employment in 2030 [11]

The projected increase in overall EU-28 employment in 2030, compared to a 'business as usual' scenario, is shown in Table 8 above. This takes account of the targets set for both cars and vans. For each scenario, results are presented for two variants: (1) assuming that batteries for electric vehicles are imported from outside of the EU, and (2) assuming that they are produced in the EU. The change in employment does not only include direct effects, but also second-order effects in sectors of the economy benefitting from increased consumer expenditures for goods and services with a high domestic content due to consumers' savings from lower fuel bills. None of the analysed scenarios include the risk of the so-called "Kodak moment", i.e. when consumers opt for a new product from outside the EU.

The transition towards zero-emission mobility also leads to differences between individual sectors. The overall employment increases in all scenarios in 2030 compared to the baseline. To the contrary, existing jobs (related to combustion engine) risk being lost in the automotive sector if the transition is too fast.

This is illustrated in Table 9 below, which shows the projected job losses in the automotive sector in 2030, compared to a 'business as usual' scenario.

Job losses in the automotive sector in 2030 (compared to baseline)		
Scenario	Absolute number of jobs (thousands)	Percentage
30%	-2	-0.1%
35%	-7	-0.3%
40%	-12	-0.5%
40%_35%ZLEV	-52	-2.2%
45%	-19	-0.75%

Table 9: Employment in 2030 in the automotive sector in the EU[12]

[11] The projected total employment for the scenario 35% and 40%_35%ZLEV is the result of the interpolation of results of other scenarios with the closest projected ZEV shares.

[12] The projected job losses for the scenario 35% and 40%_35%ZLEV are the result of an interpolation of results of other scenarios with the closest projected ZEV shares.

The projections assume that between the baseline and the different scenarios there is no further automation of production and no loss of market shares to new EV models from third countries.

With these assumptions, the 30% scenario leads to a gradual transition to ZLEV with a nearly stable number of jobs in the automotive sector because a high number of plug-in hybrids continues to be produced in the existing factories and the share of pure battery electric cars stays below a 10% market share in 2030. In the scenarios with higher targets and/or ZLEV benchmarks, leading to a rapid increase of BEV market penetration, job losses are observed for the automotive sector.

Greenhouse gas emissions

Figure 1 shows the projected CO_2 emissions from road transport under the different scenarios. Scenarios with a stricter target level yield more emission reductions.

Under the baseline, greenhouse gas emissions in road transport reduce by around 17% between 2005 and 2030. Under the EUCO30[13] scenario, emissions from road transport are projected to reduce by 25% in 2030 with respect to 2005, as a result of the implementation of a full set of additional policies with respect to the baseline.

A 30% target, as proposed by the Commission, is projected to lead to a reduction of 21.4%.

The 35% and 40%_35%ZLEV scenarios are projected to lead to greenhouse gas emission reductions of 22% and 24% respectively.

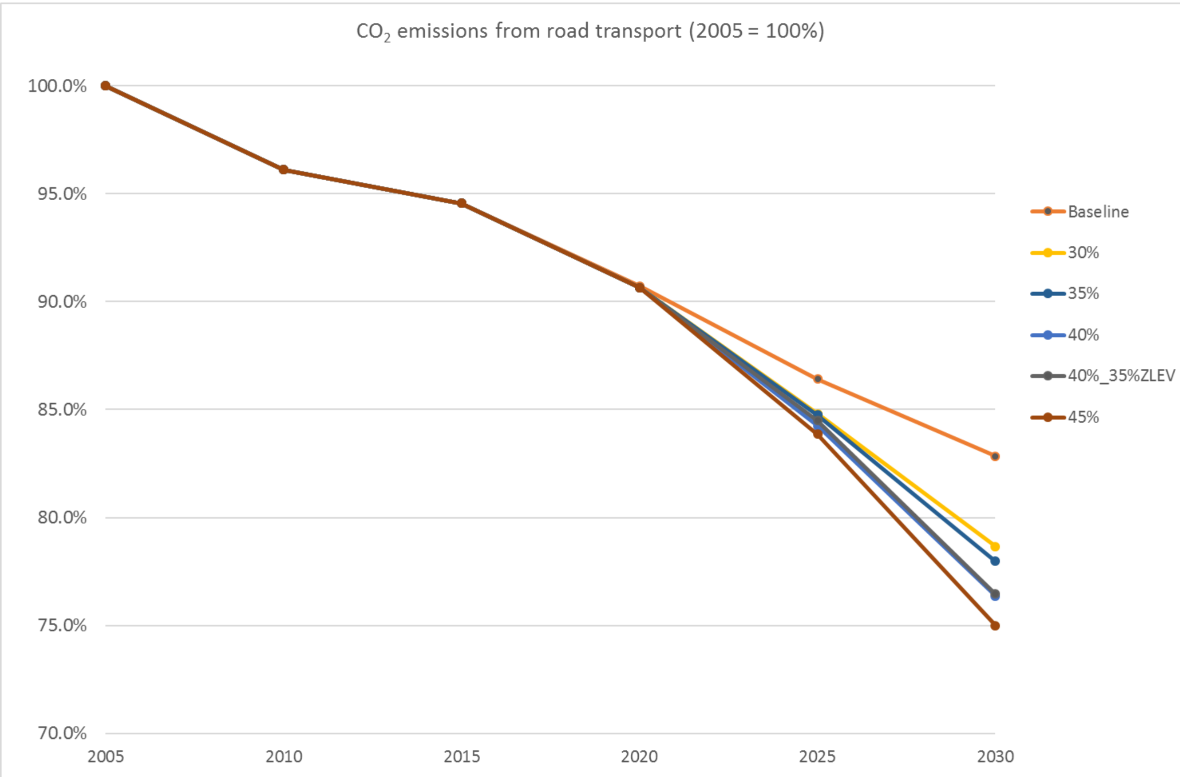

Figure 1: CO_2 emission projections in road transport

[13] The EUCO30 scenario underpinned the analytical work carried out to support the Effort Sharing Regulation Proposal.

Air pollutant emissions

Due to the change in fleet composition under the different scenarios, also the emissions of air pollutants are affected. With a 30% target, the NO_x emissions from road transport in 2030 are projected to be 40% lower than in 2020. The 35% and 40%_35%ZLEV scenarios are projected to lead to NO_x emission reductions of 41% and 47% respectively. Concerning $PM_{2,5}$, a 30% target leads to a 36% emission reduction in 2030 compared to 2020. The 35% and 40%_35%ZLEV scenarios are projected to lead to NO_x emission reduction of 36% and 45% respectively.

Battery market

As illustrated in Table 10, the post-2020 CO_2 standards for cars and vans are of key importance in determining the pace of EV battery demand growth in the EU, as this depends on the market uptake of electric and plug-in hybrid vehicles.

Scenario	EU minimum EV battery demand **in 2025** (GWh/year)
30%	66
40%	100

Table 10: Minimum EU EV battery demad in 2025

Battery cell production can be located close to end markets as car manufacturers have just-in-time supply chains and prefer suppliers close to their factories. By supporting industry-led projects to build an innovative, sustainable and competitive battery value chain in Europe, the EU Battery Alliance is facilitating key investments in battery cells, and ensures Europe remains a global centre for automotive manufacturing.

A key risk is the potential dependency on production of batteries outside Europe, and possibly issues related to security of battery supply and costs. Key raw materials like Cobalt or Graphite are e.g.currently concentrated in a few countries outside Europe.

Within this context, recovery and recycling of raw materials becomes important and offers new business opportunities.[14] Already today, more recycling of end-of-life batteries in consumer electronics could provide substantrial amounts of secondary raw materials for new batteries.

However, given the recent introduction of EVs on the European market, and taking into account the average lifetime of EV components, a significant number of EVs have not yet reached end-of-life.

Under current circumstances, the EU recycling infra-structure targeting EV batteries should still be adapted to the expected increase of EV battery flows and to recover specific materials. Large-scale recycling of EV batteries is not expected before 2020 and should only be more effective beyond 2025.

Further research and development is also required to address technological and economic challenges related to the more efficient use, recovery and recycling of EV batteries.

As part of its strategic action plan for batteries[15], the Commission has therefore adopted a set of concrete measures with sustainability requirements and circularity at its core - ranging from research and innovation, to raw materials policy, sustainable processing and production, second use and recycling.

[15] COM(2018) 293 final

Assessment of proposed changes to the ZLEV accounting in the incentive system for cars

Compared to the Commission Proposal, two changes have been proposed in the Council General Approach with regards to the ZLEV incentive system for cars:

i. changes in the ZLEV accounting rule to increase the weight of LEVs in the $ZLEV_{specific}$ formula

ii. introduction in the $ZLEV_{specific}$ formula of a multiplier for cars registered in Member States with a share of zero- and low-emission vehicles in their fleet below 60% of the EU average in the year 2021.

The following sections assess the impacts of these two proposed changes in terms of how a particular ZLEV fleet would be counted in the context of the ZLEV incentive mechanism. This assessment is done for the 35% scenario as proposed in the Council General Approach.

The following key assumptions have been made:

- the average CO_2 emissions of a PHEV are 25 g/km;
- the changes to the ZLEV accounting rules do not affect the overall fleet composition.

It should be noted that the analysis does **not** cover effects for individual manufacturers, as these impacts depend on their strategic choices, which are unknown.

(i) Effect of changes in the ZLEVs accounting rule

Table 12 shows, for the 35% scenario, the projected ZLEV shares in the fleet of new cars for the years 2025 and 2030. The "$ZLEV_{specific}$" shares are the corresponding ZLEV shares when taking into account the $ZLEV_{specific}$ formulas as laid down in the Commission Proposal and in the Council General Approach, respectively.

It shows that the changes to the ZLEV accounting rule proposed by the Council would bring, at EU fleet level, the $ZLEV_{specific}$ share closer to the benchmark levels by 1.9 percentage points in 2025 and by 3.2 percentage points in 2030.

Scenario	**2025**			**2030**		
	Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share		Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share	
		Commission accounting	General Approach accounting		Commission accounting	General Approach accounting
35%	14%	9.8%	11.7%	23%	16.5%	19.7%

Table 12: Projected ZLEV shares without and with the $ZLEV_{specific}$ accounting rules

(ii) Effect of introducing a multiplier for specific Member States

The Council General Approach proposes to use the 2021 ZLEV shares as the criterion for deciding which Member States would be eligible for applying the ZLEV multiplier. Therefore, it is not possible to predict which Member States would be eligible as the 2021 ZLEV shares in Member States will only be known in 2022.

Furthermore, the number of ZLEV registered in 2021 is expected to be small compared to the total registrations. As a result, even small variations in the projections may lead to changes in the eligibility of Member States.

Therefore, two variants have been considered for determining in which Member States the multiplier would apply:

- In Var_A, the multiplier applies to Member States with a **2020** projected ZLEV share in their fleet below 60% of the EU average. According to the modelling results, five Member States would be eliglible (BG, LT, PL, PT, SK).
- In Var_B, to reflect the most recent available data, the multiplier applies to Member States with a **2017** ZLEV share in their fleet below 60% of the EU average (see Appendix 1). Seventeen Member States would be eligible (BG, CY, CZ, DK, EE, EL, ES, HR, IE, LT, IT, LV,MT, PO, RO, SI, SK).

Tables 13 and 14 show, for the 35% scenario, the projected ZLEV shares in the fleet of new vehicles for the years 2025 and 2030. The $ZLEV_{specific}$ shares are calculated based, on one hand, on the formula laid down in the Commission Proposal and, on the other hand, taking into accounting the proposed changes applying the 2 variants described above.

It shows that the introduction of a multiplier to vehicles registered in certain Member States could bring, at EU fleet wide level, the $ZLEV_{specific}$ shares by around 0.4 to 5 percentage points closer to the benchmark levels, depending on the years and the assumptions made on the eligible Member States.

	2025			
	Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share		
Scenario		Commission accounting	General Approach multiplier Var_A	General Approach multiplier Var_B
35%	14%	9.8%	10.2%	12.4%

Table 13: Projected 2025 ZLEV shares without and with the $ZLEV_{specific}$ accounting rules and mulitplier

	2030			
	Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share		
Scenario		Commission accounting	General Approach multiplier Var_A	General Approach multiplier Var_B
35%	23%	16.5%	17.5%	21.6%

Table 14: Projected 2030 ZLEV shares without and with the $ZLEV_{specific}$ accounting rules and mulitplier

(iii) *Effect of the combination of the two changes*

Tables 15 and 16 display the combined effect of the two changes to the ZLEV accounting introduced in the Council General Approach in case of the 35% scenario.

It shows that the combination of the two changes could bring, at EU fleet wide level, the $ZLEV_{specific}$ share by around 2.6 to 9.5 percentage points closer to the benchmark levels, depending on the years and the variants with regards to the eligible Member States.

Scenario	2025			
	Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share		
		Commission accounting	General Approach accounting and multiplier Var_A	General Approach accounting and multiplier Var_B
35%	14%	9.8%	12.4%	15.1%

Table 15: Projected 2025 ZLEV shares without and with the $ZLEV_{specific}$ accounting rules and mulitplier

Scenario	2030			
	Projected ZLEV share in new car fleet	$ZLEV_{specific}$ share		
		Commission accounting	General Approach accounting and multiplier Var_A	General Approach accounting and multiplier Var_B
35%	23%	16.5%	21.6%	26.0%

Table 16: Projected 2030 ZLEV shares without and with the $ZLEV_{specific}$ accounting rules and mulitplier

Appendix 1: Member States with a 2017 ZLEV share in their fleet below 60% of EU average

The below table is based on the **provisional 2017 monitoring data**. From the data set, all **passenger cars with emissions between 0 and 50 g/km (NEDC)** have been selected. The EU-28 average ZLEV share is 1.27%. The 60% threshold would then be 0.76%. Member States highlighted in yellow have a 2017 ZLEV share that is below this value.

It should be noted that the Council General Approach refers to the future shares of ZLEV in the year 2021, which would be different from what is shown in the table below.

	ZLEV cars in 2017	Total number of registered cars in 2017	ZLEV car share in 2017
SE	19,192	369,000	5.20%
NL	9,235	412,000	2.24%
FI	2,254	114,000	1.98%
AT	6,442	353,000	1.82%
UK	45,095	2,533,000	1.78%
LU	895	52,000	1.72%
BE	9,318	548,000	1.70%
PT	3,726	222,000	1.68%
FR	34,101	2,256,000	1.51%
DE	47,674	3,377,000	1.41%
HU	1,011	107,000	0.94%
IE	858	129,000	0.67%
BG	163	26,000	0.63%
SI	336	60,000	0.56%
DK	1,148	220,000	0.52%
ES	6,695	1,286,000	0.52%
SK	330	97,000	0.34%
LV	46	15,000	0.31%
MT	25	8,000	0.31%
LT	66	25,000	0.26%
RO	282	107,000	0.26%
PL	898	430,000	0.21%
EE	43	26,000	0.17%
CZ	286	221,000	0.13%
EL	114	88,000	0.13%
IT	2,147	1,965,000	0.11%
CY	6	13,000	0.05%
HR	24	48,000	0.05%
EU-28	**192,410**	**15,107,000**	**1.27%** *(60% = 0.76%)*

Niche derogations

The Council General Approach proposes to extend the possibility for certain car manufacturers to apply for a niche derogation until 2030. The EP report proposes to phase-out the niche derogation by 2025, as in the Commission Proposal.

A manufacturer eligible for a niche derogation is a manufacturer, which, together with its connected undertakings, is responsible for between 10,000 and 300,000 new passenger car registrations in a calendar year.

In the below tables, where manufacturers are part of a pool, the figures are presented at the level of that pool. All emission figures shown are in g/km (NEDC).

1. Current situation

This analysis is based on the provisional 2017 monitoring data and in relation to the current EU fleet-wide target of 130 g/km.

The following five manufacturers were granted a niche derogation for 2017. For two of them, the 2017 emissions were already below the Annex I target. One manufacturer (Mazda) exceeded its derogation target. Together, these five manufacturers account for 4.8% of new car registrations.

Manufacturer/pool	**2017 car registrations**	**2017 average CO_2 emissions [g CO_2/km]**	**2017 Annex I target[1] [g CO_2/km]**	**Distance to 2017 Annex I target[3] [g CO_2/km]**	**2017 derogation target[2] [g CO_2/km]**	**Distance to 2017 derogation target[3] [g CO_2/km]**
Tata Jaguar Land Rover (pool)	229,124	151.667	155.628	-3.961	**178.025**	**-26.358**
Suzuki (pool)	233,152	114.892	115.680	-0.788	**123.114**	**-8.222**
Mazda	215,697	130.745	126.885	3.796	**129.426**	**1.319**
Ssangyong	16,426	157.207	142.616	14.592	**167.573**	**-10.366**
Subaru	28,951	160.390	139.254	21.136	**164.616**	**-4.226**
TOTAL	**723,350**					

The following manufacturers, which were eligible for a niche derogation, did not apply for such a derogation in 2017. All of these manufacturers met their 2017 specific emission targets. Together, these three manufacturers account for 3.4% of new car registrations.

Manufacturer/pool	**2017 car registrations**	**2017 average CO_2 emissions [g CO_2/km]**	**2017 Annex I target[1] [g CO_2/km]**	**Distance to 2017 Annex I target[3] [g CO_2/km]**
Honda (pool)	130,850	127.170	**129.301**	**-2.131**
Mitsubishi (pool)	104,937	117.597	**130.369**	**-12.772**
Volvo	277,748	124.437	**146.260**	**-21.823**
TOTAL	**513,535**			

Legend

1 ***Annex I target***: *Specific emission target calculated in accordance with Annex I to Regulation 443/2009 for 2017, i.e. by reference to the 130 g/km fleet-wide target (**values in bold are compliance values**). The reference mass M0 is 1392.4 kg and the limit value curve slope (a) is 0.0457.*

2 ***Derogation target***: *Derogation target granted to the manufacturer or pool in accordance with Annex IV to Commission Regulation (EU) No 63/2011, i.e. **25%** reduction of the average specific emissions in 2007.*

3 ***Distance to target***: *Negative number means that the average emissions of the manufacturer or pool are below the target concerned, positive number means excess emissions (**only values in bold are related to compliance values**).*

2. Projections for 2025 and 2030 based on the niche derogation provisions in the Council General Approach

For these projections, the following conditions and assumptions have been applied:

- The **current pools** continue to exist.
- The **number of registered cars** for each manufacturer/pool remains the same as in 2017.
- The **average vehicle mass** for each manufacturer/pool remains the same as in 2017.
- The **reference mass** (M0) remains at 1379.88 kg as set in the CO_2 Regulation for 2021.
- The "Annex I" targets for each manufacturer/pool in 2025 and 2030 are **15%, resp. 30% below the 2021 specific emissions targets** for that manufacturer/pool. For the slope of the 2021 limit value curve, the value set in the CO_2 Regulation (0.0333) has been used. (*Note: the choice of the 2025 and 2030 target levels does not affect the outcome shown below in terms of the relative difference between the Annex I and the derogation targets*).
- All emission values are expressed in **g/km (NEDC)**.

For all eligible manufacturers/pools, both for 2025 and 2030, **two emission targets** are calculated and compared in the tables below:

(i) **Estimated Annex I targets**, i.e. without applying a derogation;

(ii) **Estimated Derogation targets** using the approach set out in the Council's General Approach.

Manufacturers, which have been granted a derogation for 2021.

Manufacturer/pool	**2021**	**2025**		**2030**		**% difference estimated Annex I vs. derogation targets[4]**
	derogation target[1] [g CO_2/km]	**Estimated Annex I target[2] [g CO_2/km]**	**Estimated derogation target[3] [g CO_2/km]**	**Estimated Annex I target[2] [g CO_2/km]**	**Estimated derogation target[3] [g CO_2/km]**	
Tata Jaguar Land Rover (pool)	**130.552**	96.977	110.969	79.864	91.386	**+ 14%**
Suzuki (pool)	**90.283**	72.235	76.741	59.488	63.198	**+ 6%**
Subaru	**120.718**	86.836	102.611	71.512	84.503	**+ 18%**

Manufacturers, which did not yet apply for a niche derogation in 2021.

Manufacturer/ pool	Estimated 2021 derogation target[1] [g CO_2/km]	2025		2030		% difference estimated Annex I vs. derogation targets[4]
		Estimated Annex I target[2] [g CO_2/km]	Estimated derogation target[3] [g CO_2/km]	Estimated Annex I target[2] [g CO_2/km]	Estimated derogation target[3] [g CO_2/km]	
Honda (pool)	86.687	80.672	73.684	66.435	60.681	**- 9%**
Mitsubishi (pool)	96.057	81.333	81.648	66.980	67.240	**+ 0.4%**
Volvo	104.289	91.175	88.645	75.085	73.002	**- 3%**
Mazda	94.912	79.175	80.676	65.203	66.439	**+ 2%**
Ssangyong	122.887	88.919	104.454	73.227	86.021	**+ 17%**

Legend

1 ***2021 derogation target:*** *Derogation target determined in accordance with Annex IV to Commission Regulation (EU) No 63/2011, i.e.* ***45%*** *reduction of the average specific emissions in 2007. For the manufacturers/pools, which did not yet apply for a niche derogation in 2021, this is an estimated target, which is only used to calculate the future targets in line with the approach set out in the Council General Approach.*

2 ***Estimated Annex I target (2025 and 2030):*** *Specific emission target (NEDC) calculated as 15% (2025), resp. 30% (2030) reduction compared to the 2021 specific emission targets. Those 2021 targets (NEDC) were determined in accordance with Annex I to Regulation 443/2009, i.e. by reference to the 95 g/km fleet-wide target.*

3 ***Estimated derogation target (2025 and 2030):*** *Specific emission target (NEDC) calculated in accordance with Article 10(4)(c) of the Council General Approach, i.e. 15% (2025) or 30% (2030) below the 2021 derogation targets.*

4 ***% difference Annex I vs. derogation targets:*** *Positive number means that the estimated derogation target is higher than the Annex I target, negative number means that the estimated derogation target is lower (stricter) than the Annex I target.*

Effect at EU fleet wide level:

Assuming that all manufacturers, which would benefit from a niche derogation (positive value in the final column of the tables above) would apply for it, i.e. Mazda, Ssangyong, Subaru, Suzuki (pool), Tata Jaguar Land Rover (pool) and Mitsubishi (pool), the overall effect of the niche derogations would be that the EU fleet-wide targets (g/km) in 2025 and 2030 would be weakened by around 0.4%.

Considerations regarding competitive neutrality

As set out in the Impact Assessment (see section 6.6.5), the niche derogation has some drawbacks in terms of competitive neutrality.

Niche manufacturers are competing with those that are not eligible for the derogation in the same market segments. However, most of the niche manufacturers currently present on the EU market are major global manufacturers but with relatively small sales in the EU. This may result in a distortion of the market and may provide new entrants in the EU market with a competitive advantage.

In addition, the use of the year 2007 to set the manufacturer specific emissions baseline has distorting effects and penalizes early action. The higher its 2007 emissions, the larger the benefit for a manufacturer of making use of the niche derogation.