Council amendments on counting electric cars: backdoor weakening of Cars CO2 limits

October 2018

SUMMARY

The European Parliament, Council and the Commission are in the final negotiations on the 2025/2030 CO2 standards for new cars and vans. This briefing analyses the impact of the two Council amendments to change the counting of zero and low emission vehicles (ZLEV), notably:

- Amend the methodology to count plug-in-hybrids (PHEV) cars more towards the ZLEV benchmark through the addition of a 0.5 multiplier;

- Double-count sales in EU member states where the ZLEV sales share is below 60% of the EU average.

Higher credits for Plug-in hybrids

PHEVs are cars with an engine and a small battery and have a limited electric range, typically around 40km. Today most models comply with the 50g/km CO2 threshold to earn super credits for easier compliance with 2021 95g/km CO2 targets. On the road most PHEVs have relatively high average emissions of around 120g/km because they are largely driven using their engine. As the electric range of a PHEV increases, it can be driven much more using the battery and the real world emissions can improve considerably.

The 0.5 multiplier amendment would result in fewer cars with higher emissions being required to reach the benchmark and enable carmakers to earn credits more easily, thus significantly weakening the regulation as well as real-world CO2 savings. It would also increase the risk of carmakers selling compliance vehicles just below the 50g/km threshold to meet the benchmark, since these models count significantly more. This is why the European Commission in its original proposal rewards PHEVs with lower CO2 emissions as counting much more towards the benchmark than higher emitting ones. The Commission proposal, supported by MEPs, provides a significant incentive to reduce the PHEV CO2 emissions and strikes an appropriate balance between ZEVs and PHEVs.

To estimate the effect of the Council PHEV amendment, the analysis assumes carmakers sell the same number of ZLEVs as are needed to achieve the sales benchmark for the Commission proposal, but because of the amendment they now earn a bonus reducing the overall CO2 reduction target. For a 50/50 PHEV to ZEV share (a higher share of PHEV is likely to result from the amendment), the equivalent **fleet-wide average CO2 reduction for 2025 is lowered from 15% to 11.6%** (range 10.8% to 13.3%). **For the 2030 target, this is reduced to the lowest possible level, or 31.8% from 35%** (range 31.8 - 33%). In 2030 there will be 6.8 Mt of additional CO2 emissions (range 3.7 - 7.8 Mt CO2).

Double-counting ZLEVs

The Council amendment to double-count ZLEVs in those EU member states that have the sales below 60% of the EU average (in 2021) would also weaken the CO2 targets and encourage gaming of the regulation through carmakers selecting where they choose to register ZLEVs. If the latest sales of plug-in cars in EU member states from the first half of 2018 are taken, 15 countries would qualify for ZLEV double-counting under the Council amendment: Italy, Spain, Greece, Poland, Slovenia, Slovakia, Czech Republic, Romania, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Malta and Cyprus.

Assuming carmakers sell the same number of ZLEVs needed to reach the Commission benchmark, and the ZLEV markets currently lagging behind close the gap in sales by around 50% (so called Dynamic Scenario), the equivalent **fleet-wide CO2 reduction in 2025 is reduced to 12.8% from 15%** for a 50/50 share of ZEV / PHEV (range 10.8% to 13.9%). **The 2030 target is reduced to 31.8% from 35%** (range 31.8% to 33.2%).

Overall the CO2 emissions in 2030 rise by 5.4Mt CO2 (range 2.8 - 7.8 Mt CO2). This is because the double counting makes it easier to achieve a bonus for selling the same number of vehicles.

Gaming the regulation is also probable as carmakers could register cars in a double counted country but sell them in a major market shortly afterwards. This is already happening: for example Hyundai-Kia are registering sub-50g/km EVs in Germany and Sweden, but these are then resold in Norway (often in the same year). The tax breaks being provided by the German and Swedish governments are also benefiting drivers in Norway. The internal market and seamless transport of goods across Europe makes it easy to game the regulation, particularly since the base year is set for 2021. This enables carmakers to manipulate the market to maximise the number of countries where double counting will apply.

Cumulative impact of the Council amendments

The effects of the two amendments are cumulative and, when considered together, result in carmakers securing the maximum CO2 bonus (of 5%) for selling the same number of ZLEVs required to achieve only the benchmark level in the Commission proposal. T&E analysis shows this maximum CO2 weakening of the regulation happens in 8 of the 9 possible combined scenarios (see Annex). It is therefore reasonable to assume that the two amendments proposed by the Council together reduce the 2030 target from 35% to 31.8% (which is the max reduction possible) if the same ZLEV sales as expected with the Commission methodology are reached.

Alternatively carmakers could choose to simply sell less ZLEVs and use the more generous Council calculation method to still achieve their targets. For the mid-case scenario (50/50 ZEV/PHEV and the Dynamic double counting Scenario) this results in 1.9 million less ZLEVs sold in 2030 (range for other scenarios 0.9 – 3.4 million as show in the paper). Table 1 below shows how many fewer ZLEVs ("missing ZLEV") would be sold as a result of the Council amendments. In effect these two amendments are undermining the shift to ZLEV - the PHEV amendment works against the desired effect of the double counting to increase the sales in low ZLEV markets.

	Dynamic & Gamed Scenario	Dynamic Scenario	Stagnation Scenario	ZLEV market size with EC proposal
2025	1,460,000	1,150,000	940,000	3.5 million
2030	2,590,000	1,910,000	1,450,000	7 million

Table 1: "Missing ZLEVs" assuming carmakers only achieve benchmarks (50/50 split for PHEV/ZEV)

Zero and Low Emission Vehicles (ZLEV) amendments

The EU institutions are currently negotiating CO2 standards for new cars and vans for 2025 and 2030. The Commission proposal, issued in November 2017, included a 15% CO2 reduction for cars in 2025 (below 2021 level) and a 30% in 2030. The European Parliament has proposed raising the reduction targets to 20% and 40%. The Council of ministers agreed on a 35% reduction for cars (leaving the cars 2025 target and vans targets as in the Commission proposal).

Alongside the fleet-wide CO2 reduction targets, the Commission also proposed a sales benchmark for Zero and Low Emission Vehicles (ZLEV), defined as cars with tailpipe emissions below 50g/km. The Commission's original proposal sets a sales benchmark of 15% ZLEVs in 2025 and 30% in 2030, together with a bonus for carmakers that over-achieve the sales by decreasing their CO2 target (with the reduction capped at 5%). Zero and low emission cars get ZLEV credits in accordance with their CO2 performance (starting with 0 for a 50g vehicle and increasing linearly to 1 for a zero emission car such as battery electric or hydrogen fuel cell).

The European Parliament in its amendments did not alter the proposed Commission formula, but raised the sales benchmarks to 20% ZLEV sales in 2025 and 35% in 2030. It also introduced a malus (CO2 penalty) for companies that failed to achieve the benchmark operating in a similar way, but in the opposite direction, to the bonus. The Council has increased the 2030 sales benchmark to 35%, but also amended the ZLEV counting in two ways:

1) Increasing the ZLEV credits by changing the linear curve with the 0.5 multiplier:

$$ZLEV_{specific} = 1 - \left(\frac{specific\ emissions \cdot 0,5}{50}\right)$$

2) Double-counting ZLEV sold in the member states where their sales share is below 60% of EU-average in 2021:

$$ZLEV_{specific} = \left(1 - \left(\frac{specific\ emissions \cdot 0,5}{50}\right)\right) \cdot 2$$

This briefing analyses the impact of the two Council amendments on ZLEV counting as regards their impact on the shares of EVs across Europe and the overall stringency of the regulation.

Impact of 0.5 ZLEV multiplier

PHEVs have a small battery with a limited electric range, most current models driving electrically for about 40km[1]. When the battery is exhausted an internal combustion engine (usually gasoline) is able to continue to drive the vehicle. On the road most PHEVs have relatively high average emissions of around 120g/km[2] but they do not impact on the automotive supply chain to the same degree as a battery electric vehicle and require around 20% more people to build each vehicle[3]. Most PHEVs on sale today are compliance vehicles designed to achieve below 50g/km in the laboratory test and therefore qualify for super-credits that double count each car sold towards the 2020/1 regulations. As the electric range of a PHEV increases evidence suggests it is driven much more using the battery and the real world emissions fall sharply.[4] This is why the European Commission in its proposal rewards PHEVs with a lower CO2 emission as counting more towards the benchmark striking an appropriate balance between ZEVs and PHEVs.

The impact of the proposed Council amendments to the counting of PHEV is illustrated in Figure 1. It highlights that a 50g/km vehicle will achieve a credit of 0.5 towards the ZLEV benchmark compared to 1 for a BEV. In the Commission proposal a vehicle at 50g/km does not earn a credit.

[1] https://www.nextgreencar.com/
[2] https://onlinelibrary.wiley.com/doi/full/10.1111/jiec.12623
[3] https://www.transportenvironment.org/sites/te/files/publications/Briefing%20-%20How%20will%20electric%20vehicle%20transition%20impact%20EU%20jobs.pdf
[4] https://www.nature.com/articles/s41598-017-16684-9/figures/1

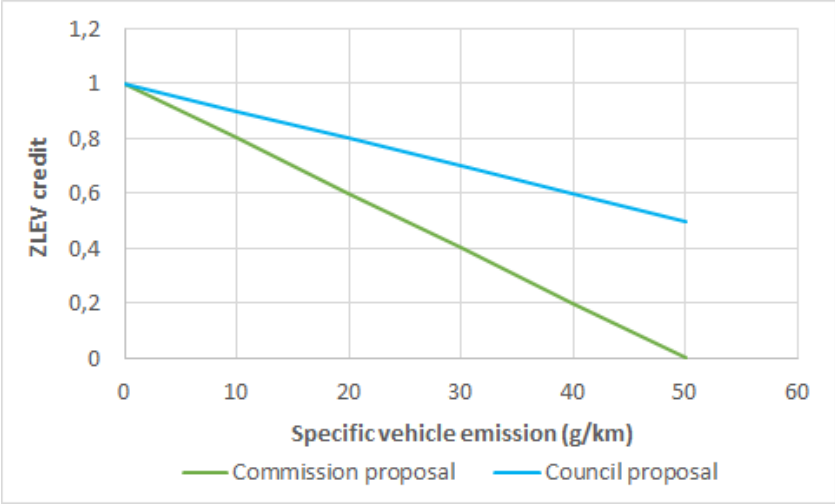

Figure 1: comparison of the impact of amending the ZLEV counting of PHEV vehicles

Relatively little monitoring of the performance of PHEVs in the real world has been performed, but what is available shows CO2 emissions in the real world substantially higher than those measured and modelled based upon NEDC or WLTP equivalent values, as illustrated in Figure 2. It shows that real world performance of a 50g/km NEDC model would be around 120g/km on the road.[5] A 50g/km NEDC PHEV would have a similar[6] or possibly slightly higher WLTP equivalent value so these models would not count under the Commission proposal.

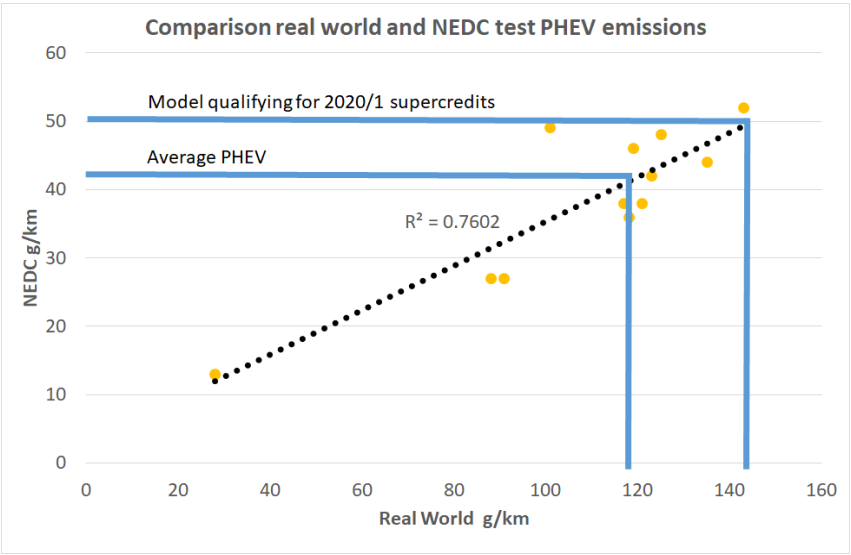

Figure 2: real-world performance of PHEV

Given the relatively poor performance of PHEV on the road, the ZLEV formula proposed by the Commission is a reasonable compromise between the needs to encourage the market for PHEV and that of BEVs - particularly since it is significantly more difficult to sell BEVs. However, the 0.5 multiplier proposed by the Council would weaken the regulation in two ways. Firstly, a 50g PHEV with 0.5 credit significantly increases the risk of carmakers selling compliance vehicles just below the threshold to meet the benchmark. This is similar to the problem encountered today with Super-credits (double counting of sales). Currently the PHEV market is dominated by large PHEV SUVs with CO2 rating of just under 50g/CO2, such as Volvo XC90 T8 (49g/km), BMW i8 (49g/km) and Mitsubishi Outlander (42g/km). A much lower emitting PHEV of 25g/km

[5] https://onlinelibrary.wiley.com/doi/full/10.1111/jiec.12623
[6] Tsiakmakis et al. - 2017 - From NEDC to WLTP effect on the type-approval CO2 .pdf

would only achieve 0.75 credit, just a quarter more than a 50g/km one. This means that doubling the performance and fuel efficiency of a PHEV is rewarded with only 0.25 credits - not a strong incentive in view of the investment cost and technology improvement needed.

Figure 3 compares the sales of ZLEVs estimated to be needed to reach the benchmark in 2025 and 2030 with both the Commission and Council ZLEV counting proposals. The analysis assumes that half the benchmark level is achieved with a PHEV and half with ZEV.

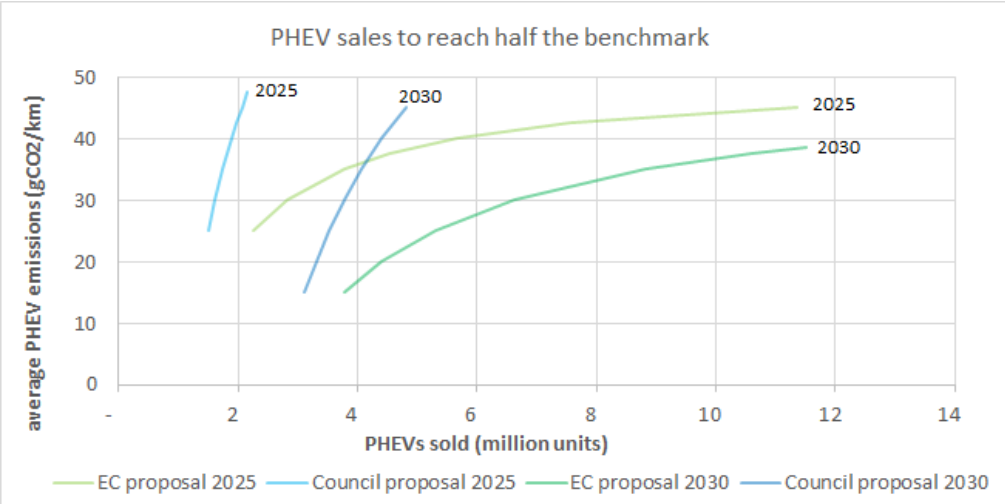

Figure 3: Impact of 0.5 multiplier on sales and CO2 emissions of ZLEV

Figure 3 illustrates how the Council amendment significantly reduces the incentive to reduce the CO2 emissions (increase the electric range) of PHEVs as supplying longer range models do not significantly reduce the total number of PHEV sales required. The figure also illustrates that the Council amendment significantly reduces the number of PHEVs needed to achieve the benchmark - or makes it significantly easier to achieve a bonus reducing the stringency of the regulation. Reducing the number of PHEV sales will impact on the number of jobs created as it requires around 20% more people to build a PHEV compared to a conventional vehicle.

The decline in the number of PHEVs is because the increase in the counting of PHEV[7] makes it easier to achieve the sales benchmark compared to the Commission proposal. Transport & Environment has modelled three potential scenarios to analyse the impact:

1. A carmaker meets the 2025 and 2030 benchmarks selling more PHEV. A PHEV / ZEV split of 70/30 is assumed (worst case)
2. The benchmark is met with an equal share of PHEV and ZEVs (balanced case)
3. The benchmark is met selling more ZEVs. A PHEV / ZEV split of 30/70 is assumed (best case).

The impact of the Council 0.5 multiplier amendment on the number of EVs sold in 2030 and the additional CO2 compared to the Commission proposal is summarised in Table 2. In this example it is assumed carmakers choose to only sell enough ZLEV to meet the benchmark, and can sell less due to the amendment.

	Worst Case	Balanced Case	Best Case
PHEV amendment	**70 PHEV / 30 ZEV**	**50 PHEV / 50 ZEV**	**30 PHEV / 70 ZEV**

[7] Plug-in hybrid technology is expected to improve in these scenarios, reaching on average 35g/km in 2025 and 25g/km in 2030. In the ZEV only scenario where a carmaker only sells battery or fuel cell electric vehicles the 0.5 multiplier has no impact.

Decrease in ZLEV sales in 2025	1,4 million	740,000	340,000
Decrease in ZLEV sales in 2030	1,7 million	1 million	510,000
ZLEV % to reach 2025 benchmark: Council vs EC	20% vs 29%	18% vs 23%	17% vs 19%
ZLEV % to reach 2030 benchmark: Council vs EC	42% vs 54%	40% vs 47%	38% vs 41%

Table 2: Effect of PHEV amendment assuming carmakers only achieve benchmarks

Table 2 shows that the 0.5 multiplier would significantly reduce the numbers of ZLEV sold across Europe if carmakers only achieved the benchmark levels. If the Council amendment is adopted there would be 1 million less PHEVs sold in 2030 assuming a 50% share of PHEV in the ZLEV fleet. This rises to 1.7 million less PHEV if there is a 70/30 share of PHEV/ZEV. The Council amendment therefore makes it much easier to meet the benchmarks. Fewer sales of PHEV would result in fewer jobs as PHEV are more employment intensive.

In Table 3, the 3 scenarios are shown for an example in which carmakers sell the same number of ZLEVs as required to achieve benchmark for the Commission proposal. But because of the Council amendment they now earn a bonus. As a result of the bonus the required percentage reduction target is reduced from 15% in 2025 and 35% in 2030 as show in the table.

	Worst Case	**Balanced Case**	**Best Case**
PHEV amendment	**70/30 PHEV/ZEV**	**50/50 PHEV/ZEV**	**30/70 PHEV/ZEV**
Equivalent fleet-wide CO2 target in 2025	-10.8%[8]	-11.6%	-13.3%
Equivalent fleet-wide CO2 target in 2030	-31.8%[9]	-31.8%	-33.0%
Annual CO2 increase 2030	7.8 Mt	6.8 Mt	3.7 Mt

Table 3: Effect of PHEV amendment assuming carmakers sell the same number of ZLEV

The number of sales of ZLEVs (assuming a 50:50 share PHEV/ZEV) required to achieve the benchmark using the Commission methodology would overachieve the benchmark using the Council approach. This overachievement would receive a CO2 bonus equivalent to 5% in 2030, in effect reducing the percentage reduction target proposed by the Commission from 35% to 31.8% just as a result of the methodology change. The effect is even more pronounced for the 2025 target reducing the stringency from 15% to 11.6%. The less stringent regulation results in 6.8Mt more of CO2 released annually by 2030. By 2040 the effect is even larger, cumulatively amounting to 134.9 Mt CO2 across Europe. With a higher share of PHEVs the reduction in the target level is even more dramatic (10.8% and 31.8% in 2025 and 2030 respectively).

[8] Full 5% bonus is reached, translating the 2025 CO2 reduction target of 15% into 10.8% (min CO2 reduction possible)
[9] Full 5% bonus is reached, translating the 2030 CO2 reduction target of 35% into 31.8% (min CO2 reduction possible)

Double counting in some countries

The European Council also proposes to amend ZLEV counting to allow sales to count double in those member states where the share of ZLEVs is below the 60% of EU average, as calculated in 2021. This presents opportunities for carmakers to game the regulations. It will also distort the future roll-out of EVs across Europe and reduce the stringency of the regulation.

Figure 4: ZLEV sales in different member states grow proportionately to today

Assuming a sales distribution between countries in 2021 equivalent to that which exists today (based upon sales in the first half of 2018), more than half of EU countries (15) would qualify for ZLEV double-counting: Italy, Spain, Greece, Poland, Slovenia, Slovakia, Czech Republic, Romania, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Malta and Cyprus.

Opportunities for gaming the regulation

The Council amendment would set the ZLEV double-counting based on the market shares in 2021. This allows car manufacturers to manipulate the sales of ZLEVs to influence which markets will benefit from double-counting in the future. In this way carmakers can maximise the benefits of the flexibility to weaken the regulation. Given the EU single market and free movement of goods across the member states there are no restrictions where cars are first registered. It is therefore entirely possible to register a ZLEV in a country where it is double counted and then re-sell it in a country with a more developed ZLEV market shortly afterwards.

This abuse it already being used by Kia that are registering electric cars in Germany and Sweden so that they count towards their car CO2 targets, and then sell them in Norway the same year (that is outside of the CO2 regulation). According to the European Environmental Agency (EEA), 2,933 brand new Kia Soul EVs were registered in Germany in 2017.[10] In the meantime, 2,986 "used" Kia Soul EVs were imported to Norway in the same year, according to the Norwegian Road Traffic Advisory Council (OFV AS). Such gaming is not therefore considered a possibility but a near certainty. This means that double counting will not achieve its stated aim - higher ZLEV sales in countries with low ZLEV shares - but will only weaken the regulation.

Impact of double-counting

Transport & Environment has modelled the impacts of the double counting amendment for three scenarios:

- **Stagnation Scenario**: in which the sales of plug-in cars in the below-60% and above 60% regions grow proportionally to today's level (the ZLEV sales share in the above 60% group remains 5 times higher than in the below-60% group).

[10] EEA, Monitoring of CO2 emissions from passenger cars – Regulation (EC) No 443/2009, April 2018

- **Dynamic Scenario**: the assumption is the ZLEV market in countries with currently low sales closes some of the gap with countries selling a higher share of ZLEVs.[11]
- **Dynamic Gamed Scenario**: arising in a situation where a small number of countries have advanced EV market while all other countries are below 60% of the EU average in 2021.[12]

The Stagnation Scenario minimises the impact of the double counting since sales in below-60% countries remain low; the Dynamic Scenario is considered the most realistic; while the Dynamic Gamed Scenario maximises the negative impact of the double counting. Table 4 summarises the impact of the double-counting for the 2025 and 2030 benchmarks for each scenario compared to the Commission proposal. This is for the assumption in which carmakers only seek to achieve the required benchmark level in ZLEV sales.

	Dynamic Gamed Scenario	*Dynamic Scenario*	*Stagnation Scenario*
Reduction in ZLEV sales 2025	590,000	340,000	170,000
% of ZLEV to reach benchmark in 2025 (15% with EC)	11%	13%	14%
Reduction in ZLEV sales 2030	1.4 million	790,000	400,000
% of ZLEV to reach benchmark in 2030: (35% with EC)	26%	30%	32%

Table 4: Effect of double counting assuming carmakers only achieve benchmarks

The assessment shows that for the Dynamic Scenario in 2025, ZLEV sales of 13% (instead of 15%) are sufficient to meet the benchmark, resulting in around 340,000 less EVs on the road. For 2030, the ZLEV sales of 30% in 2030 (instead of 35%) are enough to meet the benchmark, resulting in around 790,000 less EVs on the road.

As with the PHEV analysis, carmakers could also sell the same number of ZLEVs but use the more generous Council calculation method to earn a bonus on their fleet-wide CO2 targets. Table 5 shows the impact of selling the same number of ZLEVs but earning a bonus due to the amendment.

	Dynamic Gamed Scenario	*Dynamic Scenario*	*Stagnation Scenario*
Equivalent fleet-wide CO2 target in 2025	-10.8%[13]	-12.8%	-13.9%
Equivalent fleet-wide CO2 target in 2030	-31.8%[14]	-31.8%	-33.2%
Annual CO2 increase 2030	7.8 Mt	5.4 Mt	2.8 Mt

Table 5: Effect of double counting assuming carmakers sell the same number of ZLEV

For the Dynamic Scenario, assuming carmakers sell the same numbers of ZLEVs as needed to reach the sales benchmarks proposed by the Commission[15], double-counting these cars in some markets would make it easier to exceed the sales benchmarks and secure a bonus in the form of a lower fleet-wide CO2 targets. The

[11] To calculate this effect it is assumed the share in ZLEV sales in the below-60% region increases to represent half the share in the above-60% region in both 2025 and 2030. For example if carmakers would sell around 15% ZLEV in 2025 and 35% in 2030 in above 60% countries then below 60% countries would sell around half that, or 7.5% in 2025 and 17.5% in 2030.

[12] Here the countries above 60% of the EU average represent only 39% of the EU car market and the share in these countries is in average almost 3 times higher than the average of all other countries (in the under 60% group).

[13] Full 5% bonus is reached, translating the 2025 CO2 reduction target of 15% into 10.8% (min CO2 reduction possible)

[14] Full 5% bonus is reached, translating the 2030 CO2 reduction target of 35% into 31.8% (min CO2 reduction possible)

[15] Assuming the same ZLEV sales as required for the Commission proposal are reached, adding the double-counting would on paper translate this into the EU-wide shares of 16.2% in 2025 and 37.8% in 2030 - turning the CO2 reduction targets into 13.9% in 2025 and 33.2% accordingly.

2025 target is reduced to 12.8% and the 2030 target to 31.8% (compared to the 35% proposed), translating into 5.4 Mt of additional CO2 annually in 2030.

Conclusions

This briefing has quantified the impact of the two amendments proposed by the European Council to the calculation of ZLEV credits - revising the rewards for PHEVs and double counting ZLEVs in countries with their below average sales in 2021. Both amendments weaken the regulation and the effects are cumulative as they allow to sell less and more polluting ZLEVs to meet the benchmarks. As a result of the Council amendments the car industry could:

- Aim to sell less ZLEVs with the objective to only achieve the ZLEV benchmark but not to earn credits
- Sell the same number of ZLEVs required to achieve the benchmark in the Commission proposal but earn bonuses by exceeding the benchmarks as a result of the Council amendments. The bonus would lower the required CO2 fleet reduction target.

To produce the cumulative analysis a simple combination of the worst case, realistic case and best case have been combined. Other combinations are included in the annex. Table 6 shows the combined effect in the case where less ZLEVs are sold to achieve the benchmark. The table shows that if carmakers only sell enough ZLEVs to achieve the benchmark, the most likely outcome is that there will be 1.9 million less plug-in cars on the road in 2030 (range 930 thousand - 3.4 million).

	Worst case Scenario 70/30 PHEV/ZEV + Dynamic Gamed	***Balanced Scenario 50/50 PHEV/ZEV + Dynamic***	***Best case Scenario with 30/70 PHEV/ZEV + Stagnation***
Reduction of ZLEV sales in 2025	2.2 million	1.2 million	520,000
Reduction of ZLEV sales in 2030	3.4 million	1.9 million	930,000
% of ZLEV to reach benchmark in 2025: Council vs. EC	15% vs. 29%	15% vs. 23%	16% vs. 19%
% of ZLEV to reach benchmark in 2030: Council vs. EC	31% vs. 54%	34% vs. 47%	35% vs. 41%

Table 6: Combined effect assuming carmakers only achieve benchmarks

The Council PHEV amendment will also reduce innovation and result in supply of more compliance PHEV models which just achieve the 50g/km threshold, similar to many low emission models found on the EU market today. These typically emit 3 times more CO2 in real-world than lab values. Research shows PHEVs with an electric range of just 20km are typically driven electrically less than a quarter of the time. In comparison, those with a range of 60km are driven electrically three-quarters of the time. This illustrates the importance of creating a strong incentive for PHEV models with emissions significantly below the 50g/km threshold and not to over-reward these models.

Table 7 below shows the combined impact of the two amendments if the car industry aim to sell the same number of ZLEVs required to achieve the benchmark in the Commission proposal, but earn bonuses by exceeding the benchmarks as a result of the Council amendments. In this case the Council amendments help the industry to earn credits and therefore weaken the regulation. In terms of the relative impact of the two amendments the PHEV amendment has a higher negative effect on the stringency of the regulation than the double counting - but the degree varies depending on the share of PHEV in the fleet.

	Worst case Scenario 70/30 PHEV/ZEV + Dynamic Gamed	*Likely Scenario 50/50 PHEV/ZEV + Dynamic*	*Best Case Scenario 30/70 PHEV/ZEV + Stagnation*
Equivalent fleet-wide CO2 target in 2025	-10.8%[16]	-10.8%	-12.2%
Equivalent fleet-wide CO2 target in 2030	-31.8%[17]	-31.8%	-31.8%
Annual CO2 increase 2030	7.8 Mt	7.8 Mt	6.2 Mt

Table 7: Combined effect assuming carmakers sell the same number of ZLEV

The Council double counting amendment can also lead to manipulation of the regulation by distorting sales in 2021 base year. Given the EU single market, this can easily be done through registering cars in one country and selling them in another. This could result in wasted tax revenues where countries offer tax breaks to register a ZLEV but would then see that vehicle used in another country. Such gaming is already happening and would become much more widespread. Similarly, setting the threshold for double counting based on sales in 2021 (when they are low) and allowing the double-counting until 2030 unchecked allows for a growing number of ZLEVs to benefit. Most countries will see faster uptake of ZLEV in the coming decade, thus increasing the weakening effect of the amendments on the CO2 stringency of the regulation.

In summary, the amendments on the ZLEV benchmark agreed in the Council general approach would lead to the maximum CO2 bonus being secured for selling the same number of ZLEVs as required to reach the Commission baseline levels. Overall the stringency of the regulation would therefore be reduced such that the overall CO2 reduction targets are lowered up to 10.8% in 2025 and 31.8% in 2030. The two amendments also work in opposition to each other, with the PHEV amendment reducing sales, also in less wealthy member states, whereas the double counting aims to increase the sales in these markets.

Further information

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[16] Full 5% bonus is reached, translating the 2025 CO2 reduction target of 15% into 10.8% (min CO2 reduction possible)
[17] Full 5% bonus is reached, translating the 2030 CO2 reduction target of 35% into 31.8% (min CO2 reduction possible)

Annex

1. Missing ZLEVs as a result of Council amendments

Missing ZLEVS assume that carmakers sell less ZLEV to only achieve the same benchmark level

	PHEV/ZEV ratio	Dynamic & Gamed	Dynamic	Stagnation
2025	70/30	2.230.000	1.890.000	1.670.000
	50/50	1.460.000	1.150.000	940.000
	30/70	1.000.000	710.000	520.000
2030	70/30	3.400.000	2.680.000	2.200.000
	50/50	2.590.000	1.910.000	1.450.000
	30/70	2.000.000	1.350.000	930.000

Table 8: Combined effect assuming carmakers only achieve benchmarks in terms of fewer ZLEV sold

2. Share of ZLEVs required to reach ZLEV benchmark

The total share of ZLEV sold comparing the Commission and Council proposal in order to achieve the same benchmark.

		Council Proposal			
	PHEV/ZEV ratio	Dynamic & Gamed	Dynamic	Stagnation	EU Commission
2025	70/30	14,7%	16,9%	18,4%	29,4%
	50/50	13,4%	15,5%	16,8%	23,1%
	30/70	12,4%	14,3%	15,5%	19,0%
2030	70/30	31,3%	36,1%	39,3%	53,8%
	50/50	29,6%	34,1%	37,1%	46,7%
	30/70	28,0%	32,2%	35,1%	41,2%

Table 9: Combined effect assuming carmakers only achieve benchmarks in terms of fewer ZLEV sold

Real-world ZLEV factor of all combined scenarios without the 5% cap

Table 10 shows the overall effect of the Council amendments on the ZLEV factor in real terms if there was no 5% cap on the bonus.

	PHEV/ZEV ratio	Dynamic & gamed	Dynamic	Stagnation
2025	**70/30**	1,15	1,11	1,09
	50/50	1,11	1,07	1,06
	30/70	1,08	1,05	1,03
2030	**70/30**	1,25	1,17	1,13
	50/50	1,20	1,13	1,09
	30/70	1,17	1,10	1,06

Table 10: Combined effect assuming carmakers sell the same number of ZLEV

The regulation sets a maximum bonus of 5% - only 1 combined scenario (in black) does not achieve the maximum bonus in 2025 - all others do for 2030, in red in the table.