Full stop: fossil-fuelled mobility in cities

Eurocities position on the revision of CO_2 emissions standards for cars and vans

Key messages:

- Align vehicle emissions standards with the objective of carbon neutrality to be achieved by 2050, by raising the existing emission limits in the regulation and looking beyond 2030
- Ensure an EU-wide phase-out of fossil fuelled vehicles by 2035 while allowing for the most advanced Member States to set an earlier phase-out date
- Strengthen the incentives mechanisms for zero and low emission vehicles, especially for vans where the market supply for low and zero-emission vans is still limited
- Introduce stronger compliance mechanisms related to the real-world CO_2 emissions data while opening the potential of such data for mobility management purposes
- Beyond CO_2 emissions rules for cars and vans, EU policy makers should adopt a comprehensive set of rules to guarantee a fair transition towards zero-emission mobility and secure a full overall decarbonisation of road transport

European cities support an ambitious EU agenda for climate change, with a CO_2 emissions reduction target of at least 60% by 2030.[1] We also take responsibility by leading the way in the fight against climate change.[2] When it comes to reducing road transport emissions – one of the primary sources of greenhouse gases – local authorities actively drive the market for zero and low emissions vehicles through public transport decarbonisation and alternative fuel infrastructures. Without a comprehensive approach, addressing transport demand and supply, the European Union will fall short on its decarbonisation agenda for road transport. Cities support a modal shift from private cars by making active transport modes more convenient and increasing public transport capacity to support sustainable and affordable mobility. Other measures such as low emission zones or congestion charges also influence transportation behaviours towards more sustainable modes of transport and support the fight against climate change while improving air quality.

[1] Eurocities policy statement '*EU climate leadership: 60% emission reduction by 2030 - Paving the way to 2050 climate neutrality'*

[2] '*Cities leading the way on climate action'*, EUROCITIES publication, 2019, https://bit.ly/3d6ArHO

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Given the importance of light duty vehicle emissions in the EU's total CO_2 emissions and the slow decrease in these emissions in recent years, the EU needs to take action to comply with its climate change commitments.

CO_2 standards for passenger cars and vans are vital to enhance road decarbonisation further. Without renewed ambition for CO_2 emissions standards, efforts made by cities to support zero emission mobility could well be in vain. Eurocities calls for an ambitious revision of the CO_2 framework at EU level in the upcoming EU negotiations.

Moving away from fossil-fuel mobility through an ambitious EU framework on CO_2 emissions

Raising CO_2 targets in line with the EU 2050 climate neutrality objective

There is growing evidence[3] that current applicable targets for CO_2 emissions reduction from cars and vans will not match the ambition of carbon neutrality by 2050, with only a decrease of 53% foreseen under the current regulatory framework compared to the 2020 emissions level. Eurocities supports the European Commission's plans to revise CO_2 standards to correct this trajectory.

Beyond profiling the EU as a global leader on climate change, the ambition of the Green Deal was also to steer EU policies towards the same objective. This means raising the CO_2 targets to incentivise car manufacturers to focus on technologies providing the best CO_2 emissions savings and reduce more carbon-intensive technologies.

The latest charts on CO_2 emissions from the road transport sector have shown a stagnating trend, coupled with increased CO_2 emissions from passenger cars in the latest years.[4] Future reports for 2020 and 2021 are expected to show a sharp decrease in average CO_2 emissions due to the entry into force of the latest CO_2 standards. Experience suggests that car manufacturers adapt their strategy to comply just in time with the regulation. For example, these strategies can include launching their lowest emitting vehicles a few months before the entry into force of the regulation. This approach does not support a constant reduction in CO_2 emissions. The upcoming revision of the CO_2 standards must review the current mechanisms to achieve a stable decrease in CO_2 emissions.

In addition, we stress the importance of CO_2 regulation as the primary tool to decarbonise road transport. The current discussion at EU level on an extension of the European Emission Trading System (EU ETS) to road transport should not question the efficiency of CO_2 standards for road vehicles.

Recommendations:

- Raise the CO_2 reduction targets for 2025 and 2030 to align with EU 2050 net-zero emission compliant pathways
- Set up an intermediate CO_2 target to be achieved by 2027
- For the post 2030 targets, assess the relevance of an annual EU-wide target to be achieved or a more regular revision of CO_2 targets for a stable and continued effect in CO_2 reductions

[3] ICCT Briefing '*The role of the European Union's vehicle CO2 standards in achieving the European Green Deal*', March 2021
[4] '*CO2 emissions from new passenger cars*', European Environment Agency, June 2021

- Ensure that the extension of the EU ETS to road transport does not jeopardise the ambitions of the future CO_2 emissions standards for road vehicles

Spelling the end for fossil-fuelled vehicles sales in the EU

Sales of internal combustion engine vehicles still represent a considerable portion of total vehicle sales in Europe, even though the share of alternatively fuelled vehicles is growing faster. Car manufacturers are increasingly unveiling their ambitions regarding carbon neutrality[5], reflecting a more general trend in the automotive industry to acknowledge the end of the internal combustion engine in Europe.

In the EU, various member states already adopted or plan to adopt national legislation on the phase-out of the conventional combustion engine. Yet, without a common final date supported by all EU member states, these measures might not fully deliver their objectives. In addition, the European Commission also put into question the legality of these measures in 2018 in an answer sent out to Danish authorities.[6]

Many European cities plan to introduce future bans on diesel or fossil-fuel vehicles to improve air quality and support zero-emission mobility,[7] as part of their Sustainable Urban Mobility Plans. The end of combustion engine vehicle sales in Europe will have a positive impact on air quality and climate at urban level and will also support measures set up by cities such as low or zero emission zones. 74% of urban inhabitants are still exposed to harmful level of air pollutants concentration above WHO guidelines.[8] An accelerated switch to zero emission mobility pushed by an EU-wide phase-out has the potential to drastically improve the health conditions of urban inhabitants.

The upcoming revision of CO_2 standards for passenger cars and vans is an opportunity to set a final date for the sales of conventional combustion engines in Europe. Clarity on this objective will provide more certainty for car manufacturers and public authorities alike and allow all stakeholders to share a clear vision on the way forward, releasing additional resources for zero-mobility solutions. Setting a final date will also boost the supply of zero-emission vehicles, accelerating fleet renewal in Europe and supplying more zero-emission vehicles for the second-hand market.

Recommendations:

- Set a CO_2 target ensuring the phase-out of new fossil-fuelled vehicles sales in the EU by 2035 in line with the EU climate ambition, supported by an adequate deployment of alternative fuels infrastructure
- Revise the type-approval regulation accordingly to allow Member States to phase out the sales of conventional combustion engine earlier than the EU wide phase-out date.

[5] While VW announced they would expect 60% of their sales to be fully electric by 2030, other carmakers such as Volvo Cars, Fiat or JLR pledged to go full-electric before 2030

[6] *Letter from former Commissioner Bieńkowska to Mr Erik Christensen, Chairman of the European Affairs Committee at the Folketinget*, December 2018 : 'under current Union type-approval legislation, a complete ban of the marketing, import or registration of new petrol and diesel cars in a Member State is not compatible with EU law'

[7] ICCT report, *The end of the road? An overview of combustion engine car phase-out announcements across Europe*, Sandra Wappelhorst, May 2020

[8] EEA report (2020*). Air quality in Europe 2020*. https://www.eea.europa.eu/publications/air-quality-in-europe2020-report

Guiding the transition towards zero-emission mobility

Supporting the boost of zero emission vehicle sales in the EU

As the latest registration figures have shown, CO_2 thresholds are efficient tools to decarbonise light-duty vehicles. During the latest revision of the CO_2 standards regulation, a 'zero and low emission (ZLEV) vehicles[9] benchmark' was included in the regulation to incentivise the sales of these vehicles. However, this benchmark is below the reality of the light-duty vehicles market by 2025 and 2030 where most car manufacturers plan to reach higher proportions of zero-emission vehicles earlier.

These raised ambitions on fully electric vehicles/battery electric vehicles (BEVs) also confirm hybrid technologies' transitionary role. Under the current regulatory framework, plug-in hybrid vehicles fall under the same definition as other zero-emission technologies. Yet, there are uncertainties regarding the level of real-world CO_2 emissions from these vehicles. According to certain studies[10], they would not reduce CO_2 and air pollutant emissions as claimed by car manufacturers. Monitoring provisions of the CO_2 regulation will help to assess the difference between CO_2 emissions as declared in the vehicle type approved value and the real-world value.

The revised CO_2 regulation should better reflect the reality of this market and adjust the ZLEV benchmark to continue incentivising the supply of zero-emission vehicles.

Recommendations:

- Raise the minimum share of ZLEVs in total sales to be reached by vehicle manufacturers to better reflect the latest trends for zero-emission vehicles
- Based on real-world CO_2 emissions from low emission vehicles, assess the relevance of turning the ZLEV benchmark into a ZEV-only benchmark, at least for passenger cars
- Maintain the 5% cap in achievable target bonus to preserve the potential for emission reductions

Providing the means for zero-emission urban logistics

The boom in e-commerce in recent years, intensified under the current Covid crisis period, has led to increased goods transport at the local level. Some projections show that the growing demand for e-commerce will result in 36% more delivery vehicles in inner cities by 2030.[11]

Cities are supporting alternatives to conventional delivery solutions to cope with this growing demand. [12] While light delivery vehicles can be replaced by cargo bikes or other similar options, motorised vehicles are still necessary for certain professionals. Cities adopt local policies and incentives schemes to support the use of zero-emission delivery vehicles. However, the market for such vehicles is still emerging and the important upfront cost can be a barrier for businesses. City authorities have ambitious plans to decarbonise their public fleets, which risk not being implemented due to current market constraints.[13] This is partially caused by the

[9] Defined in the regulation as a passenger car or a light commercial vehicle with CO2 emissions between 0 and 50gr/km

[10] An ongoing study of the city of Helsinki demonstrated that PHEV running with an empty battery performs poorly compared to a diesel-powered vehicles.

[11] '*The Future of the Last-Mile Ecosystem'*, World Economic Forum, January 2020

[12] See for instance the EU funded project Ulaads – more information: https://ulaads.eu/

[13] Rotterdam will rely on fully-electric vans by 2025 in its vehicle fleet, See Big Buyers Initiative*, Lessons learned report: Public procurement of heavy-duty vehicles – Key takeaways from the Big buyers' initiative working group*, 2020.

lack of models currently available on the market and is reflected in the latest market statistics: only 4.2% of vans sold in the EU in 2020 were alternatively powered.[14]

CO_2 standards for light duty vehicles are a limited tool that do not incentivise the supply of zero-emission vans. City authorities are willing to support and facilitate the use of zero and low emission vehicles with the required infrastructure, but these efforts will be insufficient without a solid CO_2 regulatory framework to incentivise the supply of these vehicles.

Recommendations:

- Align the target for the sales of light commercial vehicles with the targets for passenger cars in the zero and low emission vehicles benchmark provisions
- Support provisions on the installation of the adequate infrastructure for zero-emission vans in view of the revision of the alternative fuels infrastructure directive and the TEN-T guidelines

Avoiding loopholes in the EU regulation

Reap the full potential of fuel consumption measurement devices to assess real-world CO_2 emissions

Under the current regulatory framework, vehicle manufacturers are expected to report certain data from 1 January 2021 to the relevant EU authorities for compliance assessment purpose using on-board fuel consumption measurement ('OBFCM') devices. Based on this data, EU authorities can verify the correspondence between the real-world CO_2 emissions from vehicles and the CO_2 emissions values recorded in the vehicle certificate of conformity. This will allow a clearer assessment of the discrepancies between real-world CO_2 emissions and the level of emissions declared during the type-approval procedure.

When available directly from the vehicle or the OEM server, such data could also become an important tool to support urban mobility management. The level of emissions or the type of propulsion used by a vehicle could determine the right to access a certain city area or provide incentives for zero-emission vehicles. Rules on the use and processing of such data by local authorities should be carefully designed in compliance with the relevant rules on data protection and cybersecurity to limit potential risks.

Recommendations:

- Gaps between CO_2 real-world emissions and CO_2 declared value, observed based on OBFCM data, should lead automatically to revisions of the OEM individual target and adjustments to the CO_2 regulation
- Data collection methods from OBCM should be carefully established to allow EU authorities to carry out their compliance duties in the right conditions. Methodologies allowing direct data transfer from the vehicle should be favoured over other means of transmissions
- Assess the opportunity to allow the use and the processing of OBFCM data by local authorities for urban mobility management purposes purpose as part of the Common Europe Mobility Data Space

[14] ACEA report '*Vehicles in use report*', January 2021

Addressing cities' concerns on the rise of Sport Utility Vehicles (SUVs)

The primary ambition of CO_2 regulation should be to incentivise the manufacturing of fuel-efficient vehicles to limit their impact on climate. Despite the steady CO_2 emission reduction path that has been enshrined in the successive CO_2 regulations, the path trajectory did not reflect this ambition. Beyond the increased demand for vehicles, research suggests that the popularity of 'Sport Utility Vehicles' (SUVs) may be responsible. According to a recent report released by the International Energy Agency[15], SUVs, larger and usually less fuel-efficient than other cars, are the only area that has seen an increase in CO_2 emissions, adding 566 million tonnes of CO_2 between 2010 and 2020 at a global level. By comparison, for traditional cars, a reduction of 439 million tonnes of CO_2 for the same year has been observed, despite the growing demand for vehicles.

From a city perspective, these vehicles are not only slowing down the pace of road decarbonisation, but they can also pose severe risks for road safety, especially for vulnerable road users. In the USA, a study carried out by the Insurance Institute for Highway Safety highlighted that SUVs are more likely to cause road fatalities than other types of cars.[16] These vehicles may also cause problems in terms of use of public space for other road users, forcing city authorities to make potential adjustments in urban areas when cities are working on putting people at the centre of spatial development and street design.

The EU institutions should address the issues of SUVs in the regulatory framework by considering specific provisions to limit their impact on vehicle emissions and road safety. In addition, under the current CO_2 regulation, provisions regarding mass adjustment of vehicles still favours the sales of heavier vehicles. Vehicle manufacturers selling heavier vehicles – therefore increasing the yearly average mass of the cars sold each year – would see their CO_2 target relaxed. These provisions are partially responsible for the rise of SUVs in Europe and should be removed by policy makers.

Recommendations:

- Develop a harmonised definition of SUVs to be used under the automotive regulatory framework to improve the fuel and energy efficiency of this category of vehicles
- Remove the mass parameter and the relevant provisions to incentivise the manufacturing of lighter and more fuel-efficient vehicles

Beyond the CO_2 rules: setting the right measures for a fair transition towards full road decarbonation

Securing a fair mobility transition in all European cities

The pace of the transition towards low and zero-emission mobility is not happening at the same rate throughout Europe. While EU cities in western and northern Europe have seen more and more electric vehicles on their streets, this is not necessarily the case in other parts of Europe. It means that European citizens living in certain parts of Europe do not have the same benefits in terms of health and air quality as their western

[15] '*World Energy Outlook 2019*', International Energy Agency, October 2019
[16] '*Pedestrian injuries from cars and SUVs: updated crash outcomes from the Vulnerable Road User Injury Prevention Alliance*' (VIPA), May 2020, Samuel S. Monfort, Becky C. Mueller, Insurance Institute for Highway Safety

counterparts. That is why beyond the CO_2 emissions rules, other initiatives should be considered to secure a fair mobility transition in all European cities.

Vehicles purchased by Central and Eastern Europe are primarily second-hand vehicles from Western Europe, while the demand for new cars is mainly driven by companies buying fleets of vehicles.[17] The potential to accelerate fleet renewal then lies in the hands of companies as they tend to renew their fleets of vehicles more regularly, bringing cleaner vehicles on the market more quickly. An EU regulation setting a minimum number of low and zero-emission vehicles to be purchased by fleet-owning companies can accelerate the shift towards cleaner mobility, and bring zero and low-emission vehicles more quickly onto the local second-hand market in all EU countries.

Retrofitting old vehicles to equip them with low and zero-emission technologies also offers an affordable option to facilitate access to cleaner vehicles while reducing greenhouse gases emissions, pollutant emissions, and the use of raw materials. However, the development of this practice is still limited, and a patchwork of national rules is developing in Europe. The financial advantages may also be limited by the regulatory costs linked to the type approval of conversion kits. In France, a national framework has been developed to allow for the retrofitting of vehicles. However, there are currently no rules at the EU level allowing the free-flow of retrofitted vehicles in the Single Market despite the Commission's intentions to address the issue. Uptake of retrofitted vehicles could be facilitated to provide a more affordable option for individuals and professionals.

The potential extension of the EU ETS to road transport mentioned above is also likely to impact the fairness of mobility transition. A possible extension could have a distributional impact on consumers, i.e. the 'carbon price' will be integrated in the final price paid by customers.[18] While cities support the polluter pays principle, such an extension should be accompanied by adequate measures to limit its social impact and increase its social acceptability.

Recommendations:

- Propose a regulatory initiative to accelerate the conversion of companies' fleets towards zero-emission vehicles following the example of the Clean Vehicles Directive
- Adapt the EU automotive framework, including the type-approval regulation to reduce the costs of retrofitting in Europe
- Ensure that adequate measures are put in place to limit the social impact of any extension of EU ETS to road transport

Ensuring a full sustainable transition of road vehicles

CO_2 emissions are considered from a tail-pipe perspective in the current CO_2 regulation. While, the pathway towards full road decarbonisation should stop here. Energy production sources, their impact on the environment or their circular economy potential, also affects the overall emissions of a type of propulsion. However, there is no consensus on the right way to consider the full life cycle of vehicle emissions. In the medium term, a common EU-wide methodology for life cycle assessment should be developed to further

[17] In the case of Poland, 65% of new cars were purchased by so-called fleet customers. See R. Kudlak, W. Kisiała, W. Dyba, J. Gadziński, '*An attempt to model the demand for new cars in Poland and its spatial differences*' in Economics and Business Review, January 2017; 68% of new electric cars were also bought by companies in the country in 2019. See Krzyczkowska, Zuzanna, 'There are already 10,000 electric cars on Polish roads. When will there be a million?' Moto.pl, 14 January 2020.

[18] *FEASIBILITY AND IMPACTS OF EU ETS SCOPE EXTENSION (Road transport and buildings*), M. Pollitt, G. Dolphin, CERRE December 2020

inform policy makers and citizens about the overall vehicle emission. In the longer term, the European Commission should look at ways to use the methodology for regulation purposes. The potential implications of moving from the so-called 'tank-to-wheel' approach to the 'well-to-wheel' on the vehicle market should be considered to support the objective of carbon-neutral mobility by 2050.

In addition, other EU regulatory initiatives should be used to further decarbonise road transport. Cities see an advantage in using specific alternative fuels coming from renewable sources especially for vehicles that are hard to electrify or where the offer on the market is still limited, such as vans. However, in order to reach climate neutrality, the development and use of alternative fuels in transport should be limited to those based on renewable sources and with a limited impact on land use. The EU energy framework has a role to play in the achievement of this objective. The upcoming revision of the Renewable Energy Directive (RED II) should be an opportunity to increase the targets of fuels from a renewable source.

Recommendations:

- Accelerate the development of full life-cycle CO_2 emissions at the EU level to assess the contribution of different technologies to carbon neutrality objectives and to better inform citizens and policymakers on the overall emissions of vehicles
- Increase the share of fuels from renewable sources used for transport in the context of revised RED II